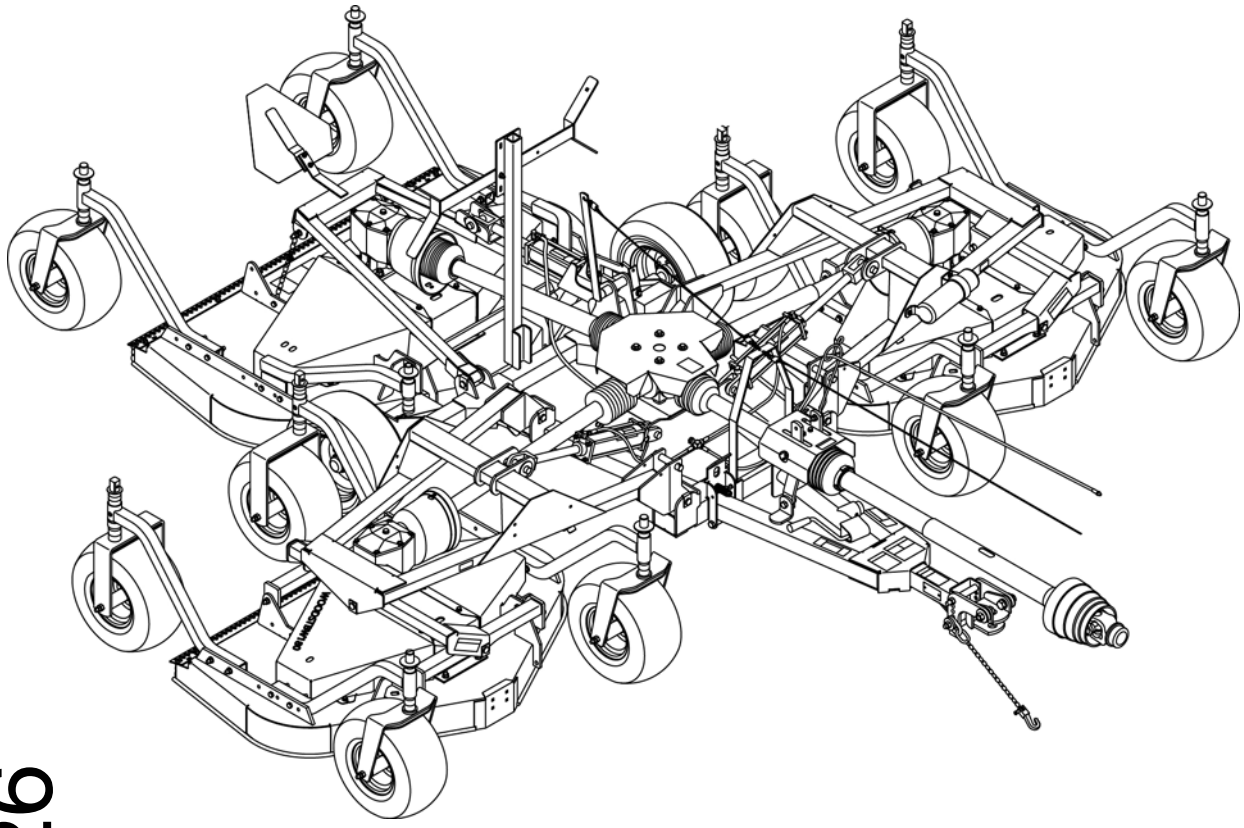
WOODS

TURF BATWING®

TBW144
TBW180
TBW204



OPERATOR'S MANUAL

MAN0826
(Rev. 11/15/2013)

WOODS®

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the Woods® dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Operator's Manual are completed before releasing equipment to the owner.

The dealer must complete the online Product Registration form at the Woods Dealer Website which certifies that all Dealer Check List items have been completed. Dealers can register all Woods product at dealer.WoodsEquipment.com under Product Registration.

Failure to register the product does not diminish customer's warranty rights.

TO THE OWNER:

Read this manual before operating your Woods equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the equipment.

For service, your authorized Woods dealer has trained mechanics, genuine Woods service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine Woods service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model: _____ **Date of Purchase:** _____

Serial Number: (see Safety Decal section for location) _____

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term **NOTICE** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION, WARNING,** and **DANGER** are used in conjunction with the Safety-Alert Symbol (a triangle with an exclamation mark) to indicate the degree of hazard for items of personal safety.

This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

IMPORTANT or ***NOTICE*** Is used to address practices not related to physical injury.

NOTE Indicates helpful information.

ALITEC™
BMP®
CENTRAL FABRICATORS®
GANNON®
GILL®
WAIN-ROY®
WOODS®

WOODS®
Woods Equipment Company

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¡LEA EL INSTRUCTIVO!

Si no lee Ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.

SPECIFICATIONS

MODEL	TBW144	TBW180	TBW204
Cutting Width	12’	15’	17’
Cutting Height Range	1.0” - 5.0”	1.0” - 5.0”	1.0” - 5.0”
Shipping Weight (Approximately)	3,010 lbs.	3,300 lbs.	3,450 lbs.
Blade Speed (feet per minute)	18,000	18,000	18,000
Blade Spindles	7	9	9
Number of Blades	7	9	9
Universal Drive Series	(Input: ASAE Cat 4; Wing: ASAE Cat 3)		
Transport Wheels	20.5” x 8.0” - 10	20.5” x 8.0” - 10	20.5” x 8.0” - 10
Caster Wheels	15” x 6.00” - 6	18” x 9.50” - 8	18” x 9.50” - 8
Tractor PTO Speed	540 rpm	540 rpm	540 rpm
Recommended Minimum Tractor Horsepower	30 hp	35 hp	40 hp

This Operator’s Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

GENERAL INFORMATION

⚠ WARNING

■ **Some illustrations in this manual show the mower with safety shields removed to provide a better view. The mower should never be operated with any safety shielding removed.**

The purpose of this manual is to assist you in operating and maintaining your Turf Batwing Mower. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance. These instructions have been compiled from extensive field experience and engineering data. Some information may be general in nature, due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing. However, due to possible inline production changes, your machine may vary slightly in detail. We reserve the right to redesign and change the machines as may be necessary without notification.

Throughout this manual, references are made to right and left direction. These are determined by standing behind the tractor facing the direction of forward travel. Blade rotation is clockwise as viewed from the top of the mower.

NOTES

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

It has been said, "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

TRAINING

■ **Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals and safety decals are available from your dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.**

■ **If you do not understand any part of this manual and need assistance, see your dealer.**

■ **Know your controls and how to stop engine and attachment quickly in an emergency.**

■ **Operators must be instructed in and be capable of the safe operation of the equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.**

■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

■ **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ **Never allow children or untrained persons to operate equipment.**

PREPARATION

■ **Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.**

■ **Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.**

■ **Route hydraulic hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hose immediately.**

■ **Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.**

■ **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**

■ **When attaching a pull-type unit to the tractor drawbar, always use a high-strength drawbar pin. The drawbar pin must have a device that will lock it into position. Secure safety chain to attachment and tractor.**

■ **Make sure attachment is properly secured, adjusted, and in good operating condition.**

■ **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**

■ **Make sure driveline guard tether chains are attached to the tractor and equipment as shown in the pamphlet that accompanies the driveline. Replace if damaged or broken. Check that driveline guards rotate freely on driveline before putting equipment into service.**

(Safety Rules continued on next page)

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

(Safety Rules continued from previous page)

■ **Before starting power unit, check all equipment driveline guards for damage. Replace any damaged guards. Make sure all guards rotate freely on all drivelines. If guards do not rotate freely on drivelines, repair and replace bearings before putting equipment into service.**

■ **Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.**

■ **Inspect chain shielding before each use. Replace if damaged.**

■ **Remove accumulated debris from this equipment, power unit, and engine to avoid fire hazard.**

■ **Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)**

■ **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**

■ **A minimum 20% of tractor and equipment weight must be on the tractor front wheels when attachments are in transport position. Without this weight, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with front wheel weights, ballast in tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.**

■ **Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.**

■ **Never attach the mower release rope to the operator, the operator's clothing, or the tractor seat.**

■ **Make test turns, both left and right. Check that both the hydraulic hose and the mower transport lock release rope do not become taut or caught on any parts of the tractor or mower.**

TRANSPORTATION

■ **The maximum transport speed for towed and semi-mounted machines is 20 mph (32 km/h). Regardless of the maximum speed capability of the towing tractor, do not exceed the implement's maximum transport speed. Doing so could result in:**

- **Loss of control of the implement and tractor**
- **Reduced or no ability to stop during braking**
- **Implement tire failure**
- **Damage to the implement or its components.**

■ **Use additional caution and reduce speed when under adverse surface conditions, turning, or on inclines.**

■ **Never tow this implement with a motor vehicle.**

■ **Always raise unit and install transport locks before transporting. Leak down or failure of mechanical or hydraulic system can cause equipment to drop.**

■ **Always comply with all state and local lighting and marking requirements.**

■ **Never allow riders on power unit or attachment.**

■ **Do not operate PTO during transport.**

■ **Do not operate or transport equipment while under the influence of alcohol or drugs.**

OPERATION

■ **Only engage power when equipment is at ground operating level. Always disengage power when equipment is raised off the ground.**

■ **Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.**

■ **Never walk, stand, or place yourself or others under a raised wing or in the path of a lowering wing. Hydraulic system leak-down, hydraulic system failures, mechanical failures, or movement of control levers can cause wings to drop unexpectedly and cause severe injury or death.**

■ **Full chain shielding must be installed when operating in populated areas or other areas where thrown objects could injure people or damage property.**

- **If this machine is not equipped with full chain shielding, operation must be stopped when anyone comes within 300 feet (92 m).**
- **This shielding is designed to reduce the risk of thrown objects. The mower deck and protective devices cannot prevent all objects from escaping the blade enclosure in every mowing condition. It is possible for objects to ricochet and escape, traveling as much as 300 feet (92 m).**

■ **Never direct discharge toward people, animals, or property.**

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

■ **Do not operate or transport equipment while under the influence of alcohol or drugs.**

■ **Operate only in daylight or good artificial light.**

■ **Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.**

■ **If equipped with driveline guard tether chains, make sure they are attached to the tractor and equipment as shown in the pamphlet that accompanies the driveline. Replace if damaged or broken. Check that driveline guards rotate freely on driveline before putting equipment into service.**

■ **Never allow riders on power unit or attachment.**

■ **Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS system in "locked up" position at all times.**

■ **Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.**

■ **Operate tractor PTO at 540 RPM. Do not exceed.**

■ **Connect PTO driveline directly to power unit PTO shaft. Never use adapter sleeves or adapter shafts. Adapters can cause driveline failures due to incorrect spline or incorrect operating length and can result in personal injury or death.**

■ **Do not operate mowers on terrain that raises mowers beyond 25 degrees. Exceeding this design limit will result in U-joint "knocking noise" and potential driveline failure and could cause driveline to pull apart.**

■ **Look down and to the rear and make sure area is clear before operating in reverse.**

■ **Do not operate or transport on steep slopes.**

■ **Do not stop, start, or change directions suddenly on slopes.**

■ **Use extreme care and reduce ground speed on slopes and rough terrain.**

■ **Watch for hidden hazards on the terrain during operation.**

■ **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**

■ **Always connect safety chain from equipment to towing vehicle when transporting.**

MAINTENANCE

■ **Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.**

■ **Before performing any service or maintenance, disconnect driveline from tractor PTO.**

■ **Before performing any service or maintenance, lower equipment to ground or block securely, turn off engine, remove key, and disconnect driveline from tractor PTO.**

■ **Before servicing blades, raise and lock mower in transport position, turn off engine, set parking brake and remove key.**

■ **Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.**

■ **Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.**

■ **To prevent contamination, clean and then cover hose ends, fittings, and hydraulic ports with tape.**

■ **Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.**

■ **Make sure attachment is properly secured, adjusted, and in good operating condition.**

■ **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**

■ **Frequently check blades. They should be sharp, free of nicks and cracks, and securely fastened.**

■ **Do not handle blades with bare hands. Careless or improper handling may result in serious injury.**

■ **Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.**

(Safety Rules continued on next page)

SAFETY RULES

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

(Safety Rules continued from previous page)

■ **Tighten all bolts, nuts, and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.**

■ **Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)**

■ **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**

■ **Do not disconnect hydraulic lines until engine is stopped, power unit is properly secured, equipment and all components are lowered to the ground, and system pressure is released by operating all valve control levers.**

■ **When lubricating telescoping PTO drives, keep fingers out of shield access slots to prevent injury.**

■ **Wear gloves when installing belt. Be careful to prevent fingers from being caught between belt and pulley.**

■ **Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.**

STORAGE

■ **Block equipment securely for storage.**

■ **Keep children and bystanders away from storage area.**

SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!

1 -18867

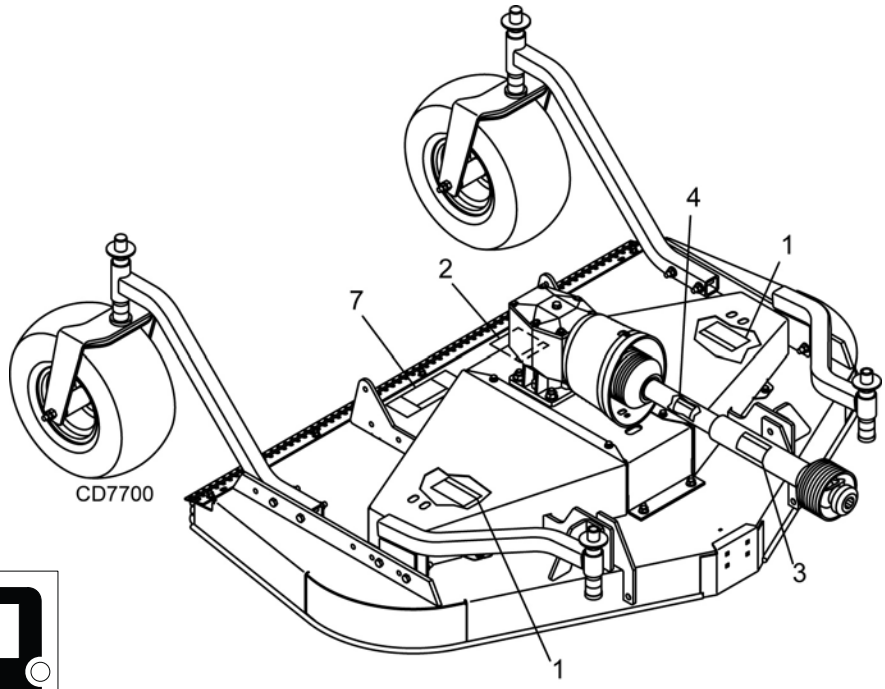
DANGER

SHIELD MISSING

DO NOT OPERATE
PUT SHIELD ON

18867-B

TBW180 & TBW204
REAR DECK
(TBW144 SIMILAR)



5 - Serial Number Plate

MODEL NO. SERIAL NO.

WOODS Woods Equipment Company
Oregon, Illinois, U.S.A.

2 - 15503

DANGER

ROTATING BLADES AND THROWN OBJECTS

- **Do not put hands or feet under or into mower when engine is running.**
- **Before mowing, clear area of objects that may be thrown by blade.**
- **Keep bystanders away.**
- **Keep guards in place and in good condition.**

BLADE CONTACT OR THROWN OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH.

15503-C

BE CAREFUL!

Use a clean, damp cloth to clean safety decals.

Avoid spraying too close to decals when using a pressure washer; high-pressure water can enter through very small scratches or under edges of decals causing them to peel or come off.

Replacement safety decals can be ordered free from your Woods dealer. To locate your nearest dealer, check the Dealer Locator at www.WoodsEquipment.com, or in the United States and Canada call 1-800-319-6637.

8 - 18866

WARNING

DO NOT EXCEED PTO SPEED OF
540 RPM

PTO speeds higher than 540 RPM can cause equipment failure and personal injury.

18866-D

SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

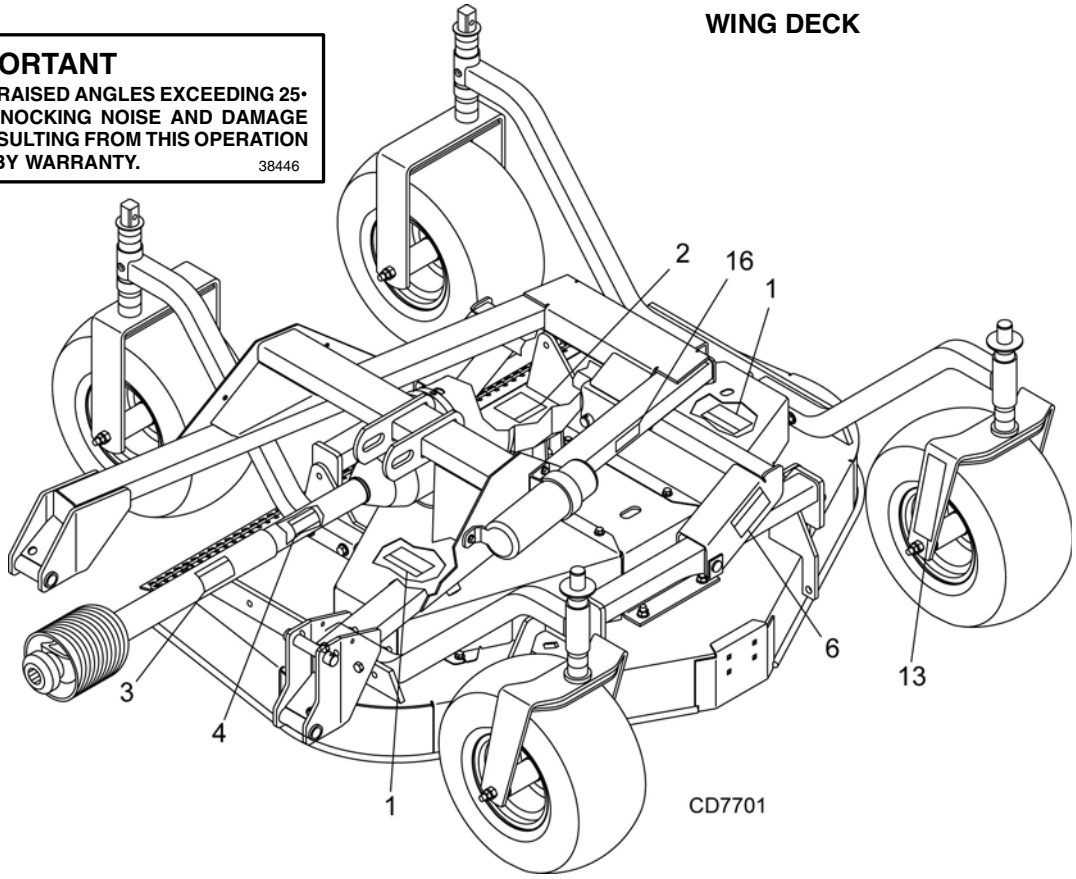
Replace Immediately If Damaged!

16 - 38446

IMPORTANT

OPERATING MOWERS AT RAISED ANGLES EXCEEDING 25• WILL CREATE U-JOINT KNOCKING NOISE AND DAMAGE DRIVELINE. FAILURES RESULTING FROM THIS OPERATION WILL NOT BE COVERED BY WARRANTY. 38446

WING DECK



13 - 1002940 YELLOW FRONT REFLECTOR

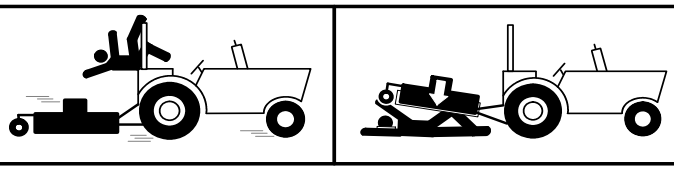
12 - 18869

DANGER

SHIELD MISSING
DO NOT OPERATE - PUT SHIELD ON
18869

9 - 18865

WARNING



FALLING OFF CAN RESULT IN BEING RUN OVER.

- Tractor must be equipped with ROPS (or ROPS CAB) and seat belt. Keep foldable ROPS systems in "locked up" position at all times.
- Buckle Up! Keep seat belt securely fastened.
- Allow no riders.

RAISED EQUIPMENT CAN DROP AND CRUSH.

- Before working underneath, follow all instructions and safety rules in operator's manual and securely block up all corners of equipment with jack stands.
- Securely blocking prevents equipment dropping from hydraulic leak-down, hydraulic system failures or mechanical component failures.

FALLING OFF OR FAILING TO BLOCK SECURELY CAN RESULT IN SERIOUS INJURY OR DEATH. 18865-C

3 - 18864

DANGER

ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH
KEEP AWAY!
DO NOT OPERATE WITHOUT-

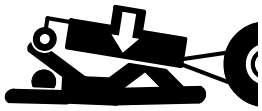
- **ALL DRIVELINE GUARDS, TRACTOR AND EQUIPMENT SHIELDS IN PLACE**
- **DRIVELINES SECURELY ATTACHED AT BOTH ENDS**
- **DRIVELINE GUARDS THAT TURN FREELY ON DRIVELINE**

18864B

SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

Replace Immediately If Damaged!



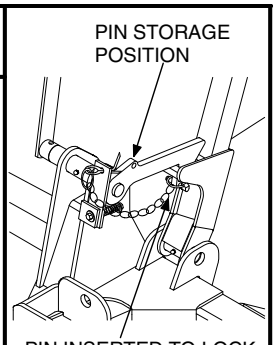
44650

WARNING

RAISED MOWER CAN DROP AND CRUSH

- Before working underneath rear mower:
  - Raise rear mower to transport position.
  - Insert pin to lock transport latch.
  - Securely block up rear of mower. See manual.
- Blocking up prevents mower dropping from transport latch release or failure, hydraulic leak down, or hydraulic system failures.

FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.



7 - 44650

11 - 44651

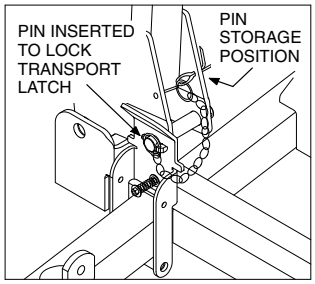
WARNING

44651

RAISED MOWERS CAN DROP AND CRUSH

- Keep away. Do not go underneath.
- When raised, insert pins to lock transport latches.
- Lower after transport.

FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.



SIDE MOWER TRANSPORT LATCHES

4 - 33347

6 - 38421

WARNING

38421-A

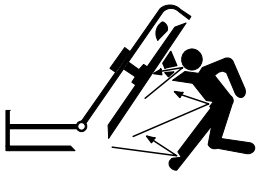
RAISED MOWER CAN DROP AND CRUSH

- Before working underneath side mowers, lower side mowers and securely block up. See manual.
- Blocking up prevents mower dropping from transport latch release or failure, hydraulic leak down or hydraulic system failure.

FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

17 - 44656

WARNING



44656

RAISED MOWERS EXPOSE BLADES AND INCREASE THROWN OBJECT HAZARDS

- Only raise for transport.
- Stop mowers before raising.

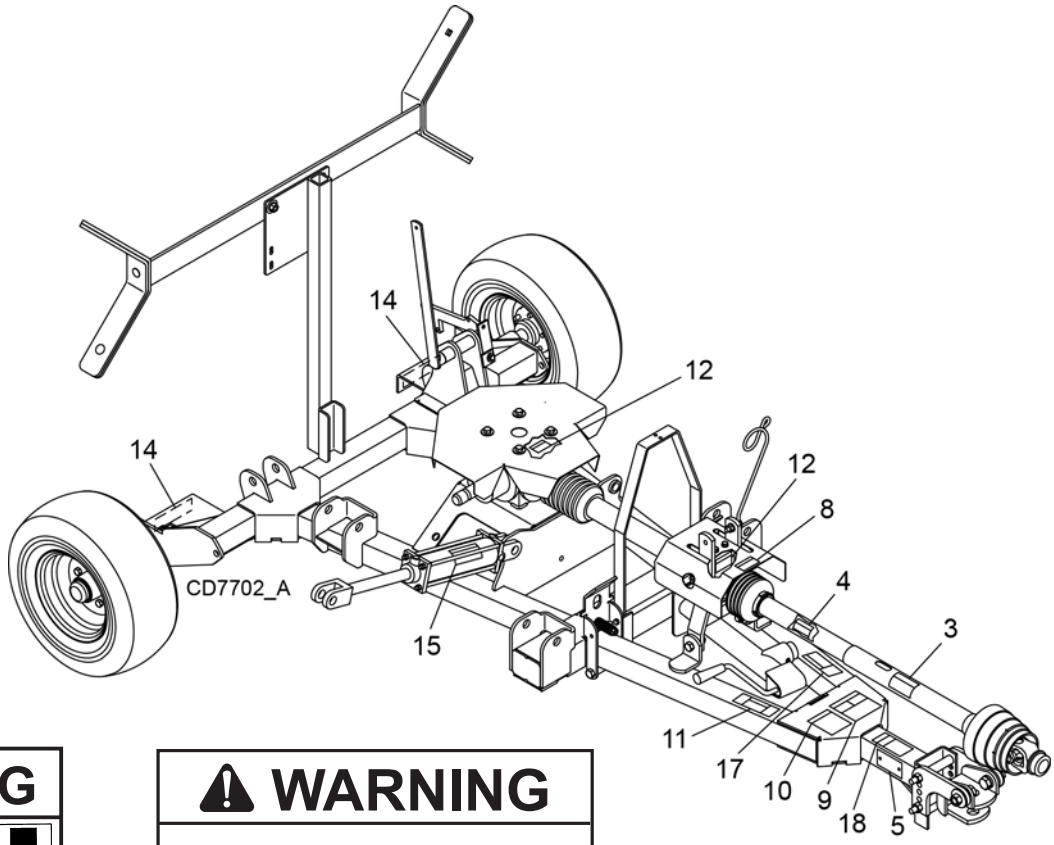
FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.

SAFETY & INSTRUCTIONAL DECALS

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

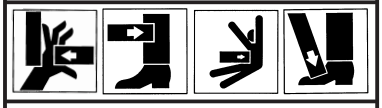
Replace Immediately If Damaged!

TBW144, TBW180, & TBW204 TRAILER



18 - 1002941

⚠ WARNING



CRUSHING AND PINCHING HAZARD

- **Be extremely careful handling various parts of the machine. They are heavy and hands, fingers, feet, and other body parts could be crushed or pinched between tractor and implement.**
- **Operate tractor controls from tractor seat only.**
- **Do not stand between tractor and implement when tractor is in gear.**
- **Make sure parking brake is engaged before going between tractor and implement.**
- **Stand clear of machine while in operation or when it is being raised or lowered.**

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.

1002941-A

⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH:

- **Read Operator's Manual (available from dealer) and follow all safety precautions.**
- **Keep all shields in place and in good condition.**
- **Operate mower from tractor seat only.**
- **Lower mower, stop engine and remove key before dismounting tractor.**
- **Allow no children or untrained persons to operate equipment.**
- **Do not transport towed or semi-mounted units over 20 mph.**

FAILURE TO OPERATE SAFELY CAN RESULT IN INJURY OR DEATH.

18877-C

14 - 57123 RED REAR REFLECTOR

10 - 18877

15 - 19924

19924-B

⚠ WARNING

HIGH-PRESSURE HYDRAULIC OIL LEAKS CAN PENETRATE SKIN RESULTING IN SERIOUS INJURY, GANGRENE OR DEATH.

- Check for leaks with cardboard; never use hand.
- Before loosening fittings: lower load, release pressure, and be sure oil is cool.
- Consult physician immediately if skin penetration occurs.

OPERATION

The operator is responsible for the safe operation of the cutter. The operator must be properly trained. Operators should be familiar with the cutter, the tractor, and all safety practices before starting operation. Read the safety rules and safety decals on page 5 through page 12.

This mower is designed for lawn and grass mowing. It is not designed for rough conditions or heavy weed mowing. It is equipped with suction type blades for best results in lawn mowing.

Recommended mowing speed for most conditions is from 2 to 5 mph. Always operate power unit PTO at 540 rpm.

This section provides information for attaching the mower to the tractor and preparing it for field operation. Review this data prior to tractor hook-up and operation.

Lower mower to the ground when not in use.

⚠ DANGER

■ **Full chain shielding must be installed when operating in populated areas or other areas where thrown objects could injure people or damage property.**

- **If this machine is not equipped with full chain shielding, operation must be stopped when anyone comes within 300 feet (92 m).**
- **This shielding is designed to reduce the risk of thrown objects. The mower deck and protective devices cannot prevent all objects from escaping the blade enclosure in every mowing condition. It is possible for objects to ricochet and escape, traveling as much as 300 feet (92 m).**

⚠ WARNING

■ **Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.**

■ **Never allow riders on power unit or attachment.**

■ **Never allow children or untrained persons to operate equipment.**

⚠ WARNING

■ **Keep bystanders away from equipment.**

■ **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**

■ **Operate tractor PTO at 540 RPM. Do not exceed.**

⚠ CAUTION

■ **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**

■ **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**

ATTACHING MOWER TO TRACTOR

⚠ WARNING

■ **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**

■ **Make sure shields and guards are properly installed and in good condition. Replace if damaged.**

■ **Never attach the mower release rope to the operator, the operator's clothing, or the tractor seat.**

1. Park mower and tractor on a level, hard-surfaced area.
2. Adjust tractor hitch bracket on trailer frame so the trailer is level when attached to the tractor. Pin the mower to the tractor.

NOTE: When attaching mower to tractor drawbar, make sure the correct drawbar pin is used. A Category 1 drawbar is 1"; Category 2 is 1.25". Failure to use the correct pin size will result in premature wear of hitch and drawbar hole. If the hitch on the mower doesn't match your tractor drawbar, contact your dealer to order the correct size hitch for your tractor. If mower will be attached to tractor for a long period of time, secure hitch to drawbar using a bolt, locknut, and washers assembled tightly. This will reduce wear on drawbar and hitch.

A 1-3/8" 6B spline PTO shaft is used for connecting the mower to the tractor. This mower is designed for 540 rpm PTO only.

The PTO drive shaft is intended for use with tractors that have 14 inches between the end of the PTO shaft and the tractor's drawbar hitch pin hole.

3. Attach the safety chain to the tractor as shown in Figure 1.
4. Attach the mower drive shaft to tractor PTO. Make sure the lock collar engages securely.
5. Attach the end of the mower's transport lock release rope to a location on the tractor within easy reach of the operator.

NOTE: When routing the rope, do not route through the hydraulic hose guide and do not allow rope slack to drop between the driveline shields and the gearbox rotating shafts.

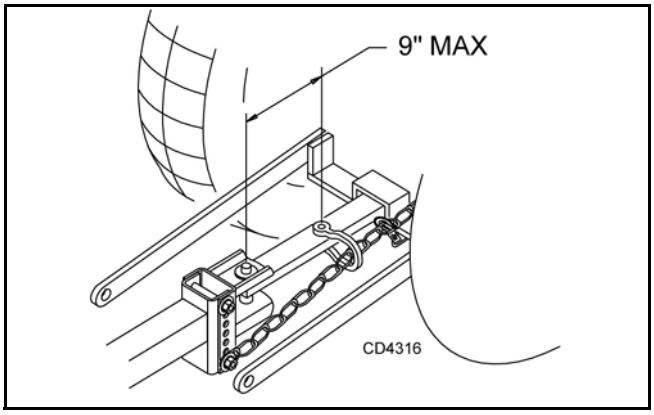


Figure 1. Tow Chain Installation

Attaching Hydraulic Hoses

1. Attach the hydraulic hose from the mower to the tractor.
2. Route the hose through the hose guide of the trailer frame and be sure the hose can slide freely in the guide. Do not allow hose slack to drag on the ground or become caught on tractor protrusions.
3. From the operator position, start the tractor, raise and lower the wings, and the rear deck several times. This will purge the hydraulic cylinders and hoses of trapped air.

Interference Check

1. Be sure that the tractor 3-point arms do not interfere with hydraulic hoses, driveline or mower frame.
2. Check for straight ahead operation and full turning angles. If there is any interference, remove the 3-point arms.

   NOTE: Contact between 3-point arms and mower can cause damage, especially when turning.

CV Driveline Turning Limits

NOTICE

■ **Do not exceed turning angle of 80 degrees at the head of the Constant Velocity (CV) driveline or damage will occur.**

Check for excessive turn angle:

1. Disconnect the driveline from the tractor.
2. Start engine and turn as far right or left as possible.
3. Shut off the engine and connect the CV driveline to the tractor. If it cannot be connected, the turn angle is too severe.
4. Restart the tractor and straighten the angle slightly.
5. Shut off the engine and connect the CV driveline to tractor.
6. Repeat the process until the driveline can be connected. The point at which the driveline can be connected is the maximum turn that can be made.

Leveling Mower

NOTE: To ensure satisfactory mower performance, the trailer frame and decks must be leveled before operating the mower. During normal operation, the mower should be leveled twice each season. The mower must be leveled each time a tractor with a different drawbar height is used.

Follow this procedure to level the mower for operation:

1. Park the tractor and mower on a flat level surface with the decks in mowing position.
2. Inflate all tires to the recommended pressure: 70 psi for trailer tires and 30 psi for deck gauge tires.
3. Level the trailer frame by adjusting the hitch. (See Figure 2.)
4. Remove the hitch clevis from the trailer frame and pin to the tractor drawbar.
5. Use the parking jack to adjust the trailer frame to the level position. Align the nearest hitch adjustment hole in the hitch clevis with a hole in the trailer frame.
6. Tighten the hardware to specifications in the Bolt Torque Chart on page 67. Readjust the level of the frame each time the drawbar height changes.
7. Attach the mower and the driveline to the tractor. Level the driveline by placing a bolt through the carrier bearing and the driveline height adjustment holes.

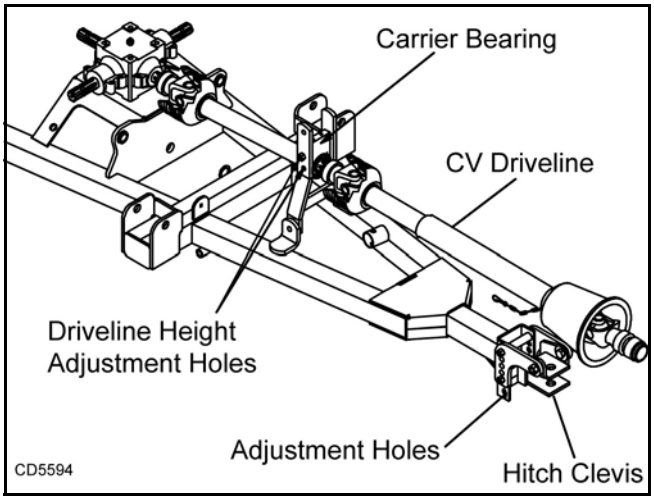


Figure 2. Level Trailer Frame

CUTTING HEIGHT ADJUSTMENT

⚠ WARNING

■ **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**

■ **Before working underneath, carefully read Operator's Manual instructions, disconnect driveline, raise mower, securely block up all corners with jackstands, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failures, or mechanical component failures.**

NOTICE

■ **Avoid low cutting heights. Striking the ground with blades produces one of the most damaging shock loads a mower can encounter. Allowing blades to contact ground repeatedly will cause damage to mower and drive.**

1. Level mower from side to side. Check by measuring from mower frame to the ground at each deck rail.
2. Verify that the same amount of spacers are under all caster arms.
3. Loosen cap screws that attach caster arm assembly to deck.
4. Set mower on the ground.
5. Retighten cap screws. This equalizes the clearance in the bolt holes.
6. Best mowing results will be obtained with front of mower level with, or slightly lower than, the rear.
7. Cutting height is controlled with front and rear caster wheel adjustment.
8. To raise rear of mower, move caster adjustment spacers under caster arms.
9. To raise front of mower, move spacers under front caster wheel arms.

Remember, measurement at location A (Figure 3) should not be less than location B and should not be over 1/2" greater than location B

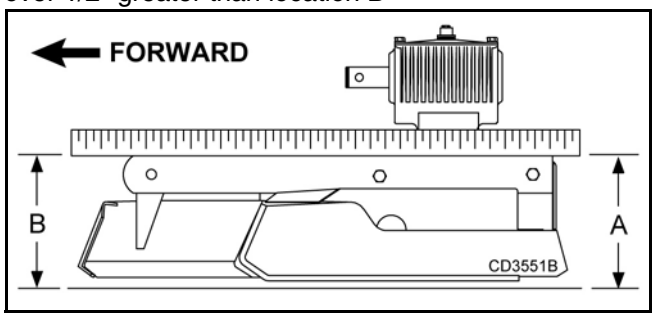


Figure 3. Cutting Height Adjustment

Table 1: Cutting Height Chart

Spacers Required Under Caster Arm Pivot Tube			
Cut Height	**1/2" Spacer**	**3/4" Spacer**	**1 Spacer**
1"			
1-1/2"	1		
2"			1
2-1/2"	1		1
3"			2
3-1/2"	1		2
4"	1	2	1
4-1/2"		2	2
5"	1	2	2

TRANSPORT

When transporting the mower short distances, raise the wings and the rear deck until all three transport locks engage automatically.

Install locking pins to secure the mower wings for transport as shown in Figure 4 and Figure 5.

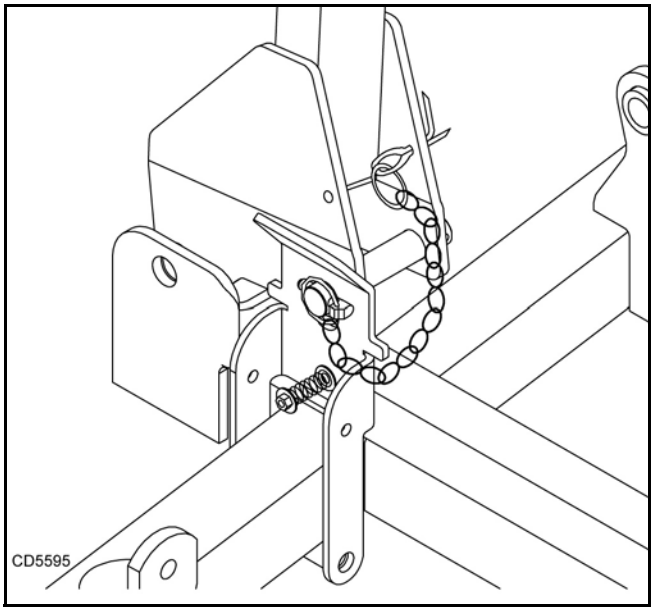


Figure 4. Lock Pin Installed (Right Wing)

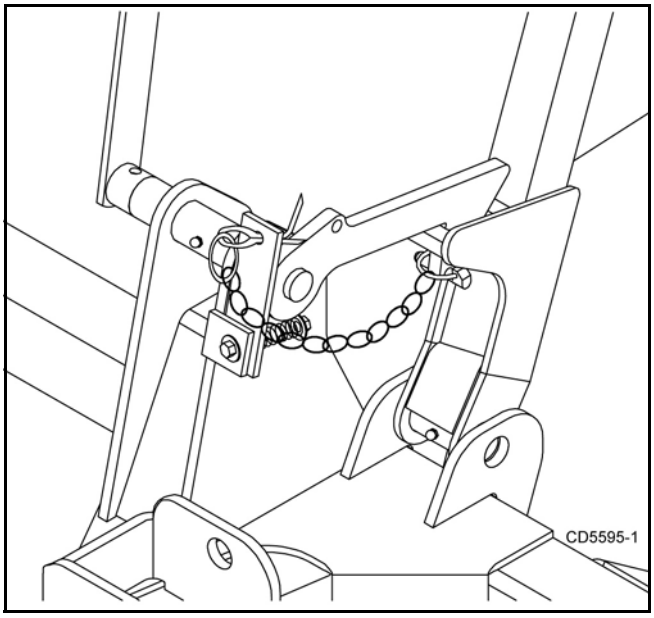


Figure 5. Lock Pin Storage Installed (Rear Deck)

To lower the wings and the rear deck:

1. Remove the locking pins and store in holes provided.
2. Slightly raise the wings and rear deck to take pressure off the locking mechanisms.
3. Pull the transport lock release rope to disengage the locks. Lower the wings and rear deck and release the rope.

STARTING AND STOPPING MOWER

⚠ WARNING

- **Do not operate PTO during transport.**
- **Never direct discharge toward people, animals, or property.**
- **Keep hands, feet, hair, and clothing away from equipment while engine is running. Stay clear of all moving parts.**

⚠ CAUTION

- **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**
- **Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.**

NOTICE

- **Stopping the mower with belt in contact with a very hot pulley will bake and ruin belt.**

Power for operating the mower is supplied from the tractor PTO. Refer to your tractor manual for instructions on engaging and disengaging the PTO.

Operate PTO at 540 rpm. Know how to stop tractor and mower quickly in case of an emergency.

If the mower becomes plugged causing the belt to slip for over two seconds, follow these steps:

1. Raise mower just enough to clear accumulated material.
2. Continue running at least two minutes, allowing pulleys to cool.

To reduce the risk of thrown objects, do not raise the mower higher than necessary

OPERATING

⚠ WARNING

- **Do not operate mowers on terrain that raises mowers beyond 25 degrees. Exceeding this design limit will result in U-joint "knocking noise" and potential driveline failure and could cause driveline to pull apart.**

When engaging the PTO, engine rpm should always be low. Once engaged and ready for mowing, increase PTO speed to 540 rpm and maintain speed throughout the cutting operation.

Mower vibration tends to loosen bolts. All hardware should be checked regularly to maintain proper torque. Each time the mower is used, check all hardware to be sure it is secure. Recommended torque values can be found on page 67.

The condition of the terrain will determine cutting results. For best results, mower blades should be kept sharp at all times and the platform as level as possible. When mower blades show excessive wear, they should be replaced.

Operating Technique

⚠ CAUTION

■ **Stop power unit and implement immediately upon striking an obstruction. Dismount power unit, using proper procedure. Inspect and repair any damage before resuming operation.**

Proper ground speed will depend upon the terrain, the height, type, and density of material to be cut.

Normally, ground speed will range from two to five mph. Tall dense material should be cut at a low speed; thin medium-height material can be cut at a faster ground speed.

Always operate tractor PTO at 540 rpm to maintain proper blade speed and produce a clean cut.

Under certain conditions, tractor tires may roll some grass down and prevent it from being cut at the same height as the surrounding area. When this occurs, reduce your ground speed, but maintain PTO at 540 rpm. The lower ground speed will permit grass to partially rebound.

In general, lower cutting heights give a more even cut with less tendency to leave tire tracks. However, it is better to cut grass frequently rather than too short. Short grass deteriorates rapidly in hot weather and invites weed growth during growing seasons. Follow local recommendations for the suitable cutting height in your area.

Operating Tips

⚠ WARNING

■ **Inspect and clear area of stones, branches, or other hard objects that might be thrown, causing injury or damage.**

Extremely tall material should be cut twice. Set mower at a higher cutting height for the first pass. Then cut at desired height 90 degrees to the first pass.

Remember, sharp blades produce cleaner cuts and require less power.

Analyze area to be cut to determine the best procedure. Consider height and type of grass and terrain type: hilly, level, or rough.

Uneven Terrain

⚠ WARNING

■ **Do not operate or transport on steep slopes.**

■ **Do not stop, start, or change directions suddenly on slopes.**

■ **Use extreme care and reduce ground speed on slopes and rough terrain.**

■ **Watch for hidden hazards on the terrain during operation.**

In extremely uneven terrain, rear wheel weights, front tractor weights and/or front tire ballast should be used to improve stability.

Pass diagonally through sharp dips and avoid sharp drops to prevent “hanging up” the tractor and the mower. Practice will improve your skills in maneuvering rough terrain.

Avoid sudden starts and stops when traveling up or down hill.

Always mow down slopes, never up or across the face. Avoid operating on steep slopes.

Slow down on sharp turns and slopes to prevent tipping and losing control.

REMOVING MOWER FROM TRACTOR

1. Park the unit on a level, hard surface with the wings and rear deck fully lowered to the ground.
2. Block the wheels to keep the mower from rolling when unhitched from tractor.
3. Attach the jack to the side of the tongue and adjust the height to take the weight off the tractor hitch.
4. Disconnect the PTO shaft and the hydraulic hose, untie the mower transport lock release rope from the tractor, and remove the hitch pin.
5. Store the PTO shaft end and the hydraulic hose couplings off the ground and keep them clean.

PRE-OPERATION CHECK LIST

(OWNER's RESPONSIBILITY)

___ Review and follow all safety rules and safety decal instructions on pages 5 through 12.

___ Check that all safety decals are installed and in good condition. Replace if damaged.

___ Check that all shields and guards are properly installed and in good condition. Replace if damaged.

___ Check that chain shielding is in good condition and replace any damaged chain links.

___ Check that all hardware and cotter pins are properly installed and secured.

___ Check to ensure blades are sharp, in good condition, and installed correctly. Replace if damaged.

___ Check that equipment is properly and securely attached to tractor.

___ Make sure driveline spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.

___ Make sure the driveline guards and tether chains are in good condition. Guards must rotate freely on driveline. Fasten tether chains as instructed to the tractor and the equipment.

___ Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.

___ Do not allow riders.

___ Check all lubrication points and grease as instructed in Lubrication Information, page 20. Make sure the PTO slip joint is lubricated and that the gearbox fluid levels are correct.

___ Check that all hydraulic hoses and fittings are in good condition and not leaking before starting tractor. Check that hoses are not twisted, bent sharply, kinked, frayed or pulled tight. Replace any damaged hoses immediately.

___ Make sure tractor ROPS or ROPS cab and seat belt are in good condition. Keep seat belt securely fastened during operation.

___ Before starting engine, operator must be in tractor seat with seat belt fastened. Place transmission in neutral or park, engage brake and disengage tractor PTO.

NOTES

OWNER SERVICE

The information in this section is written for operators who possess basic mechanical skills. If you need help, your dealer has trained service technicians available. For your protection, read and follow the safety information in this manual

⚠ DANGER

■ **Full chain shielding must be installed when operating in populated areas or other areas where thrown objects could injure people or damage property.**

- **If this machine is not equipped with full chain shielding, operation must be stopped when anyone comes within 300 feet (92 m).**
- **This shielding is designed to reduce the risk of thrown objects. The mower deck and protective devices cannot prevent all objects from escaping the blade enclosure in every mowing condition. It is possible for objects to ricochet and escape, traveling as much as 300 feet (92 m).**

⚠ WARNING

■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

■ **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**

■ **Do not disconnect hydraulic lines until engine is stopped, power unit is properly secured, equipment and all components are lowered to the ground, and system pressure is released by operating all valve control levers.**

■ **Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.**

⚠ CAUTION

■ **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**

BLOCKING METHOD

The only approved blocking devices for this mower are jack stands with a load rating of 1,000 pounds or more. Twelve jack stands, located as shown in Figure 6, must be installed before working underneath this unit.

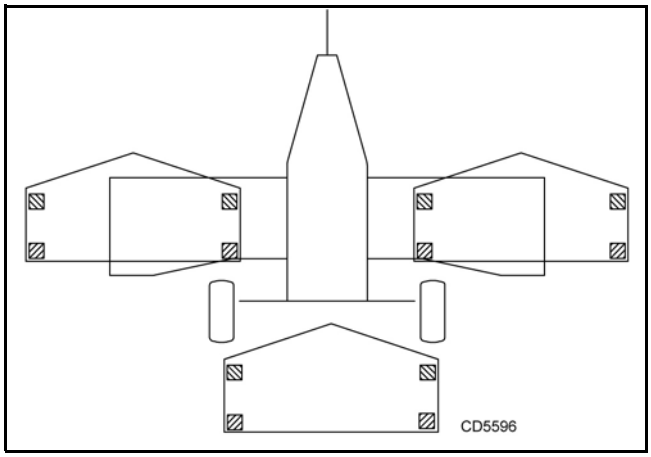


Figure 6. Jackstand Placement

Do not work underneath mower unless it is properly attached to tractor and blocked securely. When properly attached, the unit will be anchored to minimize front to rear movement.

Before blocking, be sure that the mower is securely attached to the tractor. Lower mower units to the ground. Raise the mower units as needed for working room and securely block them. Set tractor brakes, turn engine off and remove key, then disconnect mower driveline.

When blocking, you must consider the overall stability of the unit. Just placing jackstands under the unit will not ensure your safety. The working surface must be level and solid to support the loaded weight of the jack stands. Ensure that jackstands are stable at both top and bottom. Before working under any portion of the mower, test the stability of your blocking with the full weight of the mower units lowered onto the jackstands.

LUBRICATION INFORMATION

⚠ CAUTION

■ **When lubricating telescoping PTO drives, keep fingers out of shield access slots to prevent injury.**

Do not let excess grease collect on or around parts, particularly when operating in sandy areas.

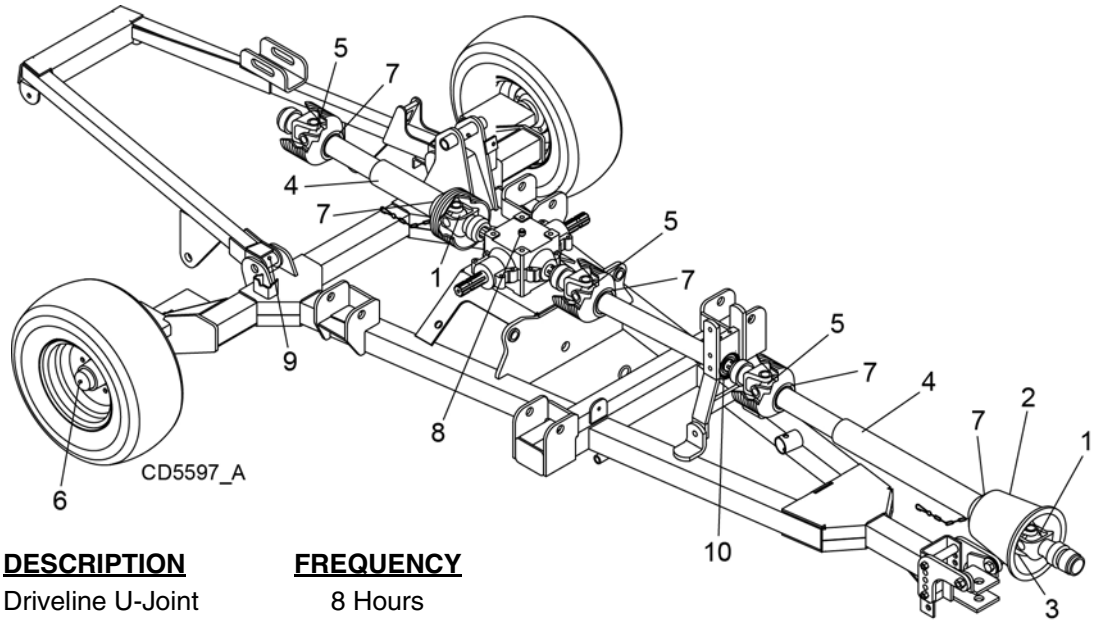
Figure 7 and Figure 8 shows lubrication points. The accompanying charts give the frequency of lubrication in operating hours, based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication.

Use a lithium grease of #2 consistency with a MOLY (molybdenum disulfide) additive for all locations unless otherwise noted.

Be sure to clean fittings thoroughly before attaching grease gun. When applied according to the lubrication chart, one good pump of most guns is sufficient. Use SAE 90W gear lube in gearboxes.

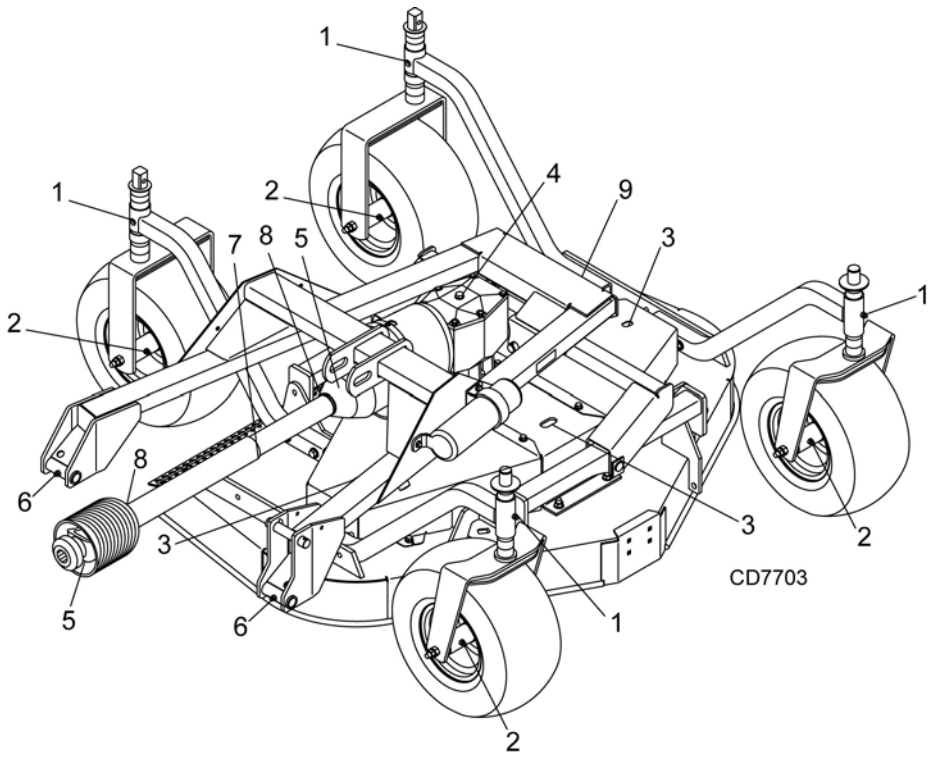
Daily lubrication of PTO slip joints is necessary. Failure to maintain proper lubrication can result in damage to U-joints, gearboxes and/or drive shafts. Raise or lower mower until grease fittings in PTO shields are exposed. Insert grease gun through slots and apply grease to all sides of shafts. Always stand clear of mower and wing arm mechanism to avoid being pinched or crushed should the mower or wing suddenly lower.

Raise and lower mower after applying grease so that it spreads over the slip joint working area.



REF	DESCRIPTION	FREQUENCY
1	Driveline U-Joint	8 Hours
2	Drive Carrier Bearing	8 Hours
3	CV Body	8 Hours
4	Telescoping Shaft	8 Hours
5	Rear Deck Pivot Arm	8 Hours
6	Transport Wheel Hub	8 Hours
7	Shield Bearing	8 Hours
8	Splitter Gearbox (Fill 1/2 full w/SAE 90W gear lube)	Check For Leaks Daily

Figure 7. Lubrication Points - Trailer



REF	DESCRIPTION	FREQUENCY
1	Caster Wheel Pivots	8 Hours
2	Caster Wheel Hubs	8 Hours
3	Blade Spindles	24 Hours
4	Gearbox (Fill 1/2 full with SAE 90W gear lube	Check For Leaks Daily
5	Driveline U-Joints	8 Hours
6	Wing Pivots	8 Hours
7	Telescoping Shaft	8 Hours
8	Shield Bearing	8 Hours
9	Deck Pivot	8 Hours

Figure 8. Lubrication Points - Deck

BELT SERVICE

Belt Replacement

One of the major causes of belt failure is improper installation. Before installing a new belt, check the following:

1. Check pulley shafts and bearings for wear.
2. Check pulley grooves for cleanliness.
3. Make sure spindles turn freely and without wobble.

If grooves require cleaning, moisten a cloth with a non-flammable, non-toxic degreasing agent or commercial detergent and water.

Avoid excessive force during installation. Do not use tools to pry belt into pulley groove. Do not roll belt over pulleys to install. This can cause hidden damage and premature belt failure.

Belt Installation

Wing Deck - TBW144 (Figure 9 & Figure 10)

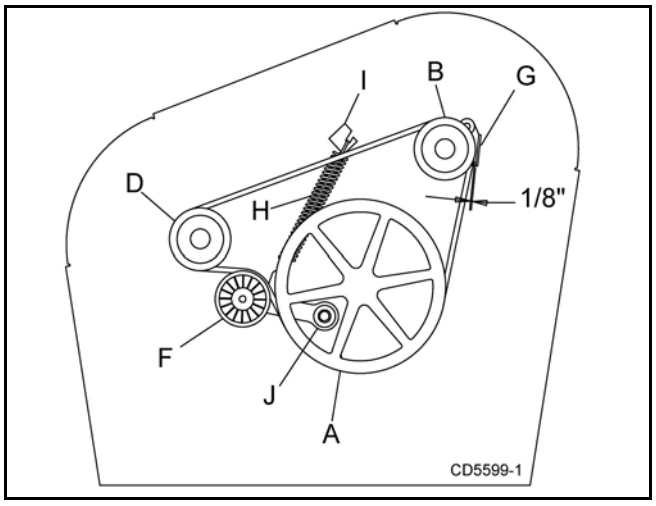


Figure 9. Belt Routing Right Wing TBW144

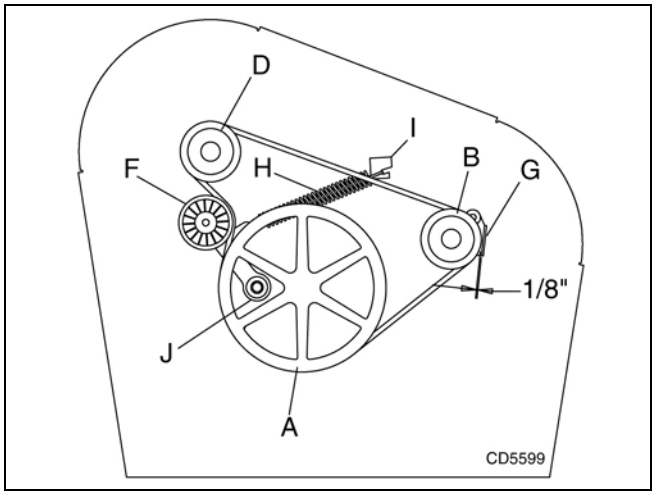


Figure 10. Belt Routing Left Wing TBW144

⚠ CAUTION

■ **Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.**

4. Slide belt under drive pulley A and over idler arm. Position the belt around drive pulley A.
5. Loosen the bolt holding belt guide G and swing it away from pulley B. Route the belt around pulley D as shown.
6. Make sure the belt is on drive pulley A; route around idler F.
7. Grasp the belt between spindle pulley B and spindle pulley D. Drive pulley A. Pull spring loaded idler with belt to obtain enough belt length to route it over pulley B. Make sure spring loaded idler pivots freely with belt installed.
8. Adjust belt guide G to provide 1/16" to 1/8" clearance from belt. Tighten the bolt to 85 lbs./ft.

Rear Deck - TBW144
All Decks - TBW180 & TBW204 (Figure 11)

⚠ CAUTION

■ **Use care when installing or removing belt from spring-loaded idler. Springs store energy when extended and, if released suddenly, can cause personal injury.**

1. Slide the belt under drive pulley A and over idler arm. Position the belt around drive pulley A.
2. Loosen the bolt holding belt guide G and swing it away from pulley B. Route the belt around pulley B, idler C, and pulley D as shown.
3. Make sure the belt is on drive pulley A; route around idler F.
4. Grasp the belt between spindle pulley E, spring loaded idler F, and spindle pulley D. Pull spring loaded idler with belt to obtain enough belt length to route it over pulley E. Make sure spring loaded idler pivots freely with belt installed.
5. Adjust belt guide G to provide 1/16" to 1/8" clearance from belt. Tighten bolt to 85 lbs-ft.

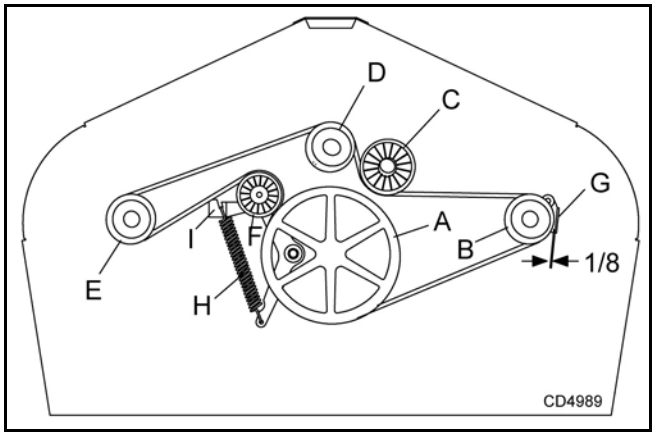


Figure 11. Belt Routing - TBW180 & TBW204 All Decks & TBW144 Rear Deck

BLADE SERVICING

⚠ WARNING

■ **Before servicing blades, raise and lock mower in transport position, turn off engine, set parking brake and remove key.**

■ **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**

⚠ CAUTION

■ **Frequently check blades. They should be sharp, free of nicks and cracks, and securely fastened.**

1. Raise mower decks to the transport position and make sure transport locks are engaged.
2. Shut off tractor, relieve hydraulic pressure in cylinders, set parking brake and remove key.
3. Inspect blades before each use to determine that they are mounted securely and are in good condition.
4. Replace any blade that is bent, excessively nicked, worn, or has any other damage.
5. Small nicks can be ground out when sharpening.

BLADE REMOVAL

⚠ WARNING

■ **Do not handle blades with bare hands. Careless or improper handling may result in serious injury.**

1. Remove cap screws (3) & lock nut (4), Figure 12.
2. Remove blade.

BLADE SHARPENING

NOTICE

■ **When sharpening blades, be sure to balance them. Unbalanced blades will cause excessive vibration that can damage blade spindle bearings. Vibration may also cause structural cracks in mower housings.**

1. Remove blades.
2. Always sharpen both ends to maintain balance.
3. Follow original sharpening pattern.
4. Do not sharpen blade to a razor edge. Leave from 1/32" to 1/16" blunt edge.
5. Do not sharpen back side.

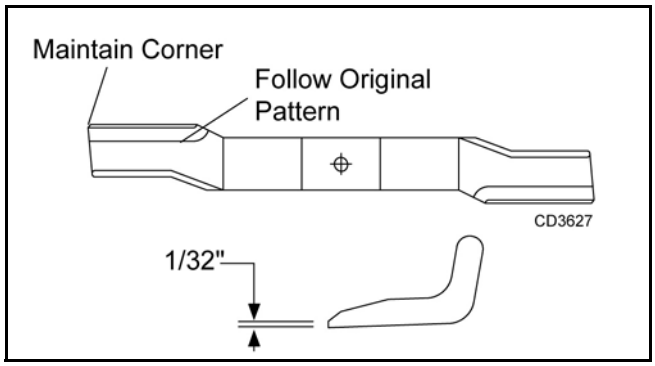


Figure 12

BLADE INSTALLATION

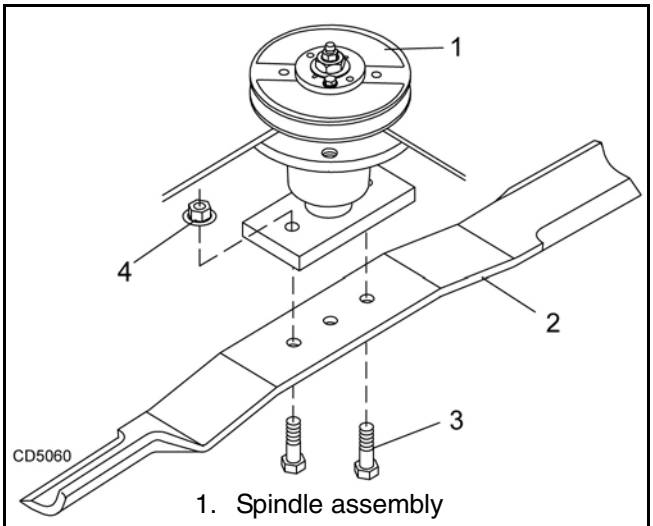
⚠ CAUTION

■ **Your dealer can supply genuine replacement blades. Substitute blades may not meet original equipment specifications and may be dangerous.**

NOTICE

■ **When installing blade, the lift of the blade must be toward the blade spindle housing as shown in Figure 13, page 24.**

1. Place cap screws (3) through outer holes in blade and spindle shaft.
2. Make sure blade cutting edge is positioned to lead in a clockwise rotation, as viewed from top of mower.
3. Place locknuts (4) on screws and torque to 84 lbs-ft.



1. Spindle assembly
2. Blade
3. Screw, HHCS 1/2 NC x 1-1/2 GR5
4. Nut, flange lock 1/2 NC

Figure 13. Blade Installation

CLEANING

After Each Use

- Remove large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove belt shields and clean out all accumulated grass, dirt and other debris.
- Inspect machine and replace worn or damaged parts.
- Replace any safety decals that are missing or not readable.

Periodically or Before Extended Storage

- Clean large debris such as clumps of dirt, grass, crop residue, etc. from machine.
- Remove the remainder using a low-pressure water spray.
  1. Be careful when spraying near scratched or torn safety decals or near edges of decals as water spray can peel decal off surface.
  2. Be careful when spraying near chipped or scratched paint as water spray can lift paint.
  3. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
- Inspect machine and replace worn or damaged parts.
- Sand down scratches and the edges of areas of missing paint and coat with Woods spray paint of matching color (purchase from your Woods dealer).
- Replace any safety decals that are missing or not readable (supplied free by your Woods dealer). See Safety Decals section for location drawing.

TROUBLESHOOTING

MOWING CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Grass cut higher in center of swath than at edge	Height of mower higher at front than at rear	Adjust mower height and attitude so that mower rear and front are within 1/2 inch of same height. See instructions on page 15.
	Loose Blade	Check blade hardware.
Grass cut lower in center of swath than at edge	Height of mower lower at front than at rear	Adjust mower height and attitude so that mower rear and front are within 1/2 inch of same height. See instructions on page 15.
	Loose Blade	Check blade hardware.
Streaking conditions in swath	Conditions too wet for mowing	Allow grass to dry before mowing.
	Blades unable to cut that part of grass pressed down by path of tractor tires	Slow ground speed of tractor but keep engine running at full PTO rpm.
		Cutting lower will help.
		Adjust tractor tire spacing if possible.
	Dull blades	Sharpen or replace blades.
	Loose Blade	Check blade hardware.
Material discharges from mower unevenly; bunches of material along swath	Material too high and too much material	Reduce ground speed but maintain 540 rpm at tractor PTO, or make two passes over material.
		Raise mower for the first pass and lower for the second and cut 90 degrees to first pass.
		Raise rear of mower high enough to permit material discharge.
	Grass wet	Allow grass to dry before mowing. Slow ground speed of tractor but keep engine running at full PTO rpm.

TROUBLESHOOTING

BELT CONDITIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Belt slippage	Mower overloading; material too tall or heavy	Reduce tractor ground speed but maintain full PTO rpm.
		Cut material twice, one high pass and then mow at desired height.
		Cut 90 degrees to first pass.
	Oil on belt from over-lubrication	Be careful not to over-lubricate. Clean lubricant from belt and pulleys with clean rag.
		Replace oil-soaked belt.
	Belt hung up or rubbing	Check belt position in pulleys and idlers.
		Check belt for free travel in pulleys.
		Check under mower and around blade spindle shaft for wire, rags, or other foreign material.
		Clean all material from under mower.
Frayed edges on belt cover	Belt misaligned	Re-align belt. Be sure belt does not rub any other part while running.
	Pulley misaligned	Inspect to ensure belt is running in center of backside idler.
		Shim idler as necessary to align.
Belt rollover	Pulley misaligned	Re-align.
	Damaged belt	Replace belt*.
	Foreign object in pulley groove	Inspect all pulley grooves for rust, paint, or weld spots and remove.
	Worn pulley groove	Replace pulley.
Damaged belt	Rollover, high shock loads or installation damaged	Replace belt*.
Belt breakage	High shock loads	Avoid abusive mowing.
		Avoid hitting the ground or large obstructions.
	Belt came off drive	Check pulleys for foreign material in grooves.
		Avoid hitting solid objects or ground.

* Check belt for damage by laying it flat on the floor. A belt that does not lie flat (has humps or twists, indicating broken or stretched cords) must be replaced.

DEALER SERVICE

The information in this section is written for dealer service personnel. The repair described here requires special skills and tools. If your shop is not properly equipped or your mechanics are not properly trained in this type of repair, you may be time and money ahead to replace complete assemblies.

⚠ WARNING

■ **Before working underneath, read manual instructions, securely block up, and check stability. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failure, or mechanical component failure.**

■ **Keep all persons away from operator control area while performing adjustments, service, or maintenance.**

⚠ CAUTION

■ **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**

BLOCKING METHOD

NOTE: SEE BLOCKING METHOD, PG. 19

BLADE SPINDLE SERVICE

Spindle Repair

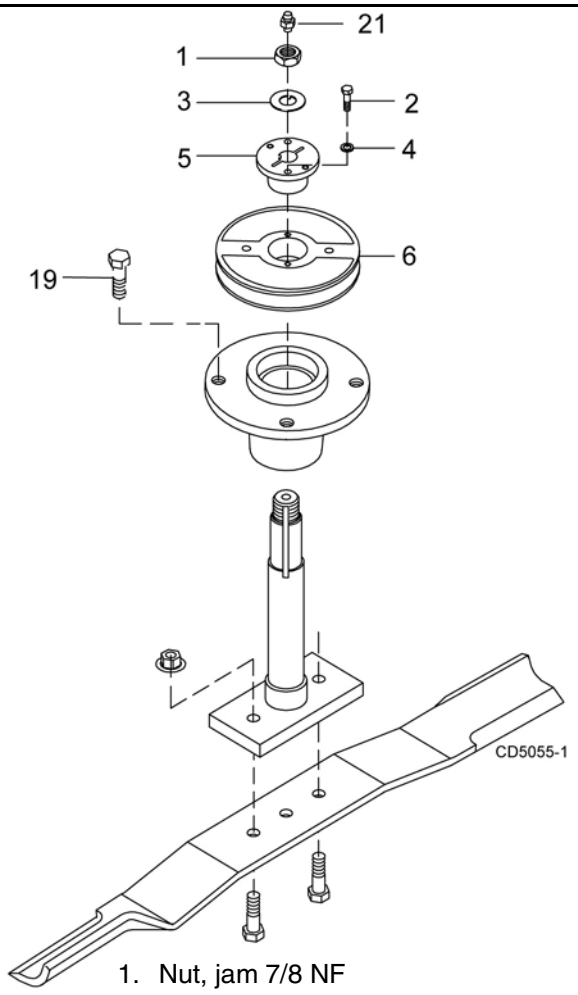
Spindle repair requires special skills and tools. If your shop is not properly equipped or your mechanics are not trained in this type of repair, you may be time and money ahead to use a new spindle assembly.

For reference, the grease fitting is in the top of the spindle shaft.

Permatex®[1] 3D Aviation Form-A-Gasket or equivalent is recommended as a sealant

Spindle Removal (Figure 14)

1. Remove blade from spindle.
2. Remove belt from pulleys.
3. Remove jam nut (1) and washer (3) from top of spindle shaft.
4. Disassemble split taper bushing (5) (located on top of pulley) by removing the two bolts (2) and washers (4).
5. Insert bolts (2) into the threaded holes of bushing flange.
6. Tighten bolts alternately to remove split taper bushing.
7. Remove pulley (6).
8. Remove bolts (19) that attach spindle to mower frame and remove spindle.
9. Remove grease fitting (21) from top of shaft.



1. Nut, jam 7/8 NF
2. Screw, HHCS 1/4 NC x 1 GR5
3. Washer, lock .929 x 1.66
4. Washer, lock 1/4
5. Bushing, H 1 straight bore w/key
6. Sheave, H 1 BK
19. Screw, HHCS 1/2 NF x 1-1/4 GR5
21. Grease fitting

Figure 14. Sheave and Blade Assembly

1. Permatex is a registered trademark of the Permatex Corporation.

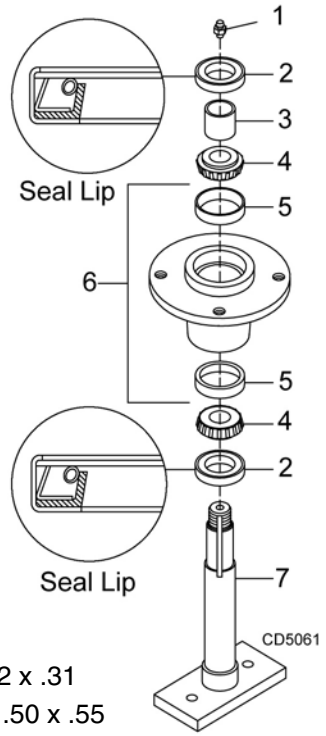
Spindle Disassembly

1. Place spindle assembly in press and press shaft down through housing.
2. Remove seals from housing.
3. Remove bearing cups from housing by placing a punch in the slots provided and driving them out. Alternate punch positions from side to side. Take care to prevent housing damage.

Spindle Assembly (Figure 15 & Figure 16)

NOTICE

■ **Improper positioning of seals can cause seal damage. An improperly installed seal will leak and could cause bearing failure.**

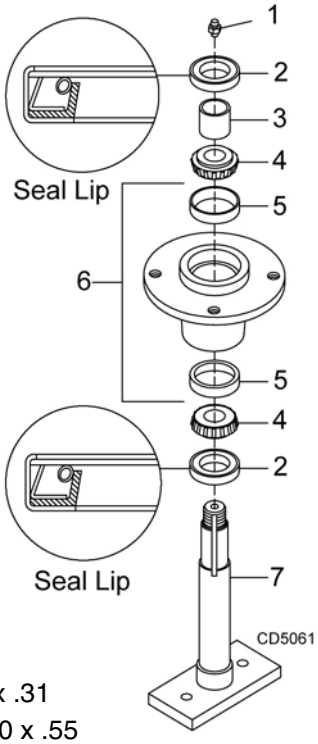


1. Grease fitting
2. Seal, 1.50 x 2.12 x .31
3. Sleeve, 1.14 x 1.50 x .55
4. Bearing cone
5. Bearing cup
6. Spindle housing
7. Shaft, blade spindle

Figure 15. Spindle and Shaft Assembly

Bearing cones and cups are designed to work together. It is important to position them so bearing cone taper mates with cup taper.

1. Lubricate new cups with a light oil. Place them in spindle housing so they will mate with bearing cones. Cups and cones are a press fit to minimize wear.
2. Seat cups securely with a press or place a large drift in the flat lip and drive them into housing until cup seats against machined shoulder of housing.
3. Place bottom bearing cone into spindle with taper positioned to mate with cup.
4. Identify the open side of the seal containing the spring.
5. Apply a thin coat of Permatex to the area of housing where seals seat.
6. Install bottom seal with spring up toward center of housing.



1. Grease fitting
2. Seal, 1.50 x 2.12 x .31
3. Sleeve, 1.14 x 1.50 x .55
4. Bearing cone
5. Bearing cup
6. Spindle housing
7. Shaft, blade spindle

Figure 16. Spindle and Shaft Assembly

7. Place seal squarely on housing and select a piece of pipe or tubing with an OD that will set on outside edge of seal. A tubing with an OD that is too small will bow seal cage.
8. Carefully press seal into housing to prevent distortion to metal seal cage. Bottom seal should seat firmly and squarely against machined shoulder in housing.
9. Make sure seal lip did not roll under. Distortion to seal cage or damage to seal lip will cause seal to leak. Damaged seals must be replaced.
10. Insert shaft and bearing through bottom of housing.
11. Fill housing cavity with a medium grade grease.
12. Install top bearing on shaft to mate with top cone.

13. Apply a thin coat of Permatex to shaft area where sleeve will seat.
14. Install sleeve on shaft and press sleeve and bearing into housing until all free play is removed and there is a very light drag on bearings (similar to adjusting front wheel bearings on an automobile). Check by spinning spindle. It should turn freely.
15. Be careful not to overtighten bearings. Proper bearing adjustment is essential to good bearing life.
16. If you overtighten bearings, hold spindle housing and rap spindle shaft with a lead hammer.
17. Carefully press top seal in with spring up. Top seal should be flush with or to within 1/16" above the housing.
18. Rotate housing on spindle shaft, checking for free movement.
19. Install grease fitting in spindle shaft.

Spindle Installation

NOTICE

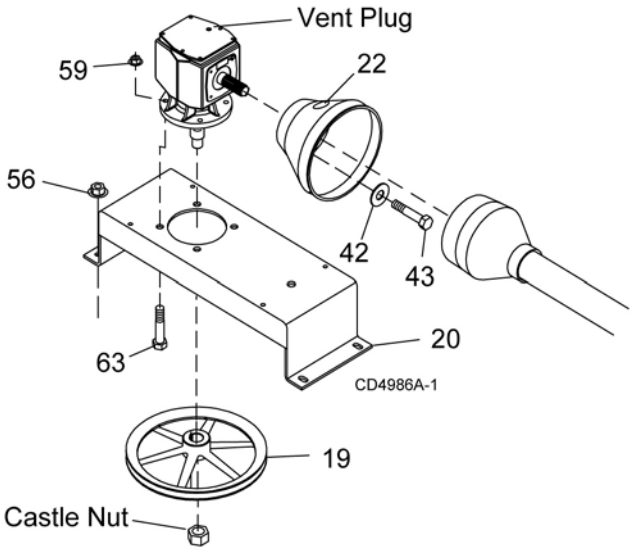
■ **Pulley installation sequence is very important for bearing life. Follow the sequence exactly.**

1. Install spindle through bottom of mower and secure with four mounting bolts.
2. Install pulley and split taper bushing with integral key on spindle shaft. Make sure bushing is in contact with sleeve on spindle shaft.
3. Alternately tighten split taper bushing cap screws to 12 lbs.-ft.
4. Install toothed lock washer and nut on spindle shaft. Tighten nut until snug. Do not tighten this nut with wrench. Bearing damage will result from over-tightening. Bend up edge of lock washer.

GEARBOX SERVICE

Gearbox Removal from Mower (Figure 17)

1. Disconnect and remove the rear driveline from the gearbox.
2. Remove vent plug and siphon gear lube from housing through this opening.
3. Remove gearbox stand (20) from mower deck by removing four flanged lock nuts (56).
4. Remove four cap screws (43) and washers (42) and remove shield (22) from gearbox.
5. Remove castle nut and hardware from output shaft of gearbox.
6. Remove sheave (19) from gearbox.
7. Remove four bolts (63) and lock nuts (59) that attach gearbox to gearbox stand and remove gearbox.



19. Sheave, offset 13.25 PD
20. Gearbox stand
22. Shield, counter cone
42. Washer, flat standard 5/16
43. Screw, HHCS 8mm x 1.25P x 16mm
56. Nut, flanged lock 1/2 NC
59. Nut, flanged lock 5/8 NC
63. Screw, flanged hex head 5/8 NC x 1-3/4

Figure 17. Gearbox Stand Assembly

Gearbox Repair

Read this entire section before starting any repair. Many steps are dependent on each other.

Fill gearbox with SAE 80W or 90W gear lube until it runs out the side level plug.

Repair to this gearbox is limited to replacing bearings, seals, and gaskets. Replacing gears, shafts, and a housing is not cost effective. It is more economical to purchase a complete gearbox if repair to anything other than replacement of bearings, seals or gaskets is required.

Inspect gearbox for leakage and bad bearings.

Leakage is a very serious problem and must be corrected immediately.

Bearing failure is indicated by excessive noise and side-to-side or end play in gear shafts.

Seal Replacement

Recommended sealant for gearbox repair is Permatex Aviation 3D Form-A-Gasket or equivalent.

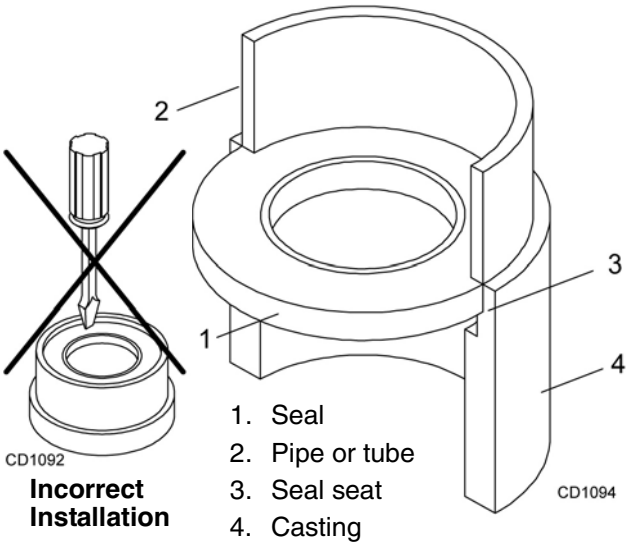
Leakage can occur at the vertical or horizontal gaskets and shaft seals.

Leakage at the horizontal gasket or seal can be repaired without removing the gearbox from the cutter.

Seal Installation

NOTE: Proper seal installation is important. An improperly installed seal will leak.

1. Clean area in housing where seal outer diameter (OD) seats. Apply a thin coat of Permatex.
2. Inspect area of shaft where seal seats. Remove any burrs or nicks with an emery cloth.
3. Lubricate gear shaft and seal lips.
4. Place seal squarely on housing, spring-loaded lip toward housing. Select a piece of pipe or tubing with an OD that will sit on the outside edge of the seal but will clear the housing. Tubing with an OD that is too small will bow seal cage and ruin seal.
5. Carefully press seal into housing, avoiding distortion to the metal seal cage.



NOTE: Pipe or tube must press at outer edge of seal.

Figure 18. Seal Installation

1. Crown gear
2. Gearbox housing
3. Input shaft
4. Output shaft
5. Gear pinion
6. Bearing
7. Bearing
8. Protective flat washer
9. Cotter pin
10. Snap ring
11. Snap ring
12. Spacer
13. Shim kit
14. Castle nut
15. Castle nut M24 x 2
16. Shim kit
17. Flat washer
18. Oil seal (40 x 80 x 12)
19. Oil seal (35 x 72 x 10)
20. Cap
21. Snap ring
22. Top cover
23. Bolt M8 x 14mm
24. Breather plug
25. Cotter pin
26. Bearing
27. Ball bearing

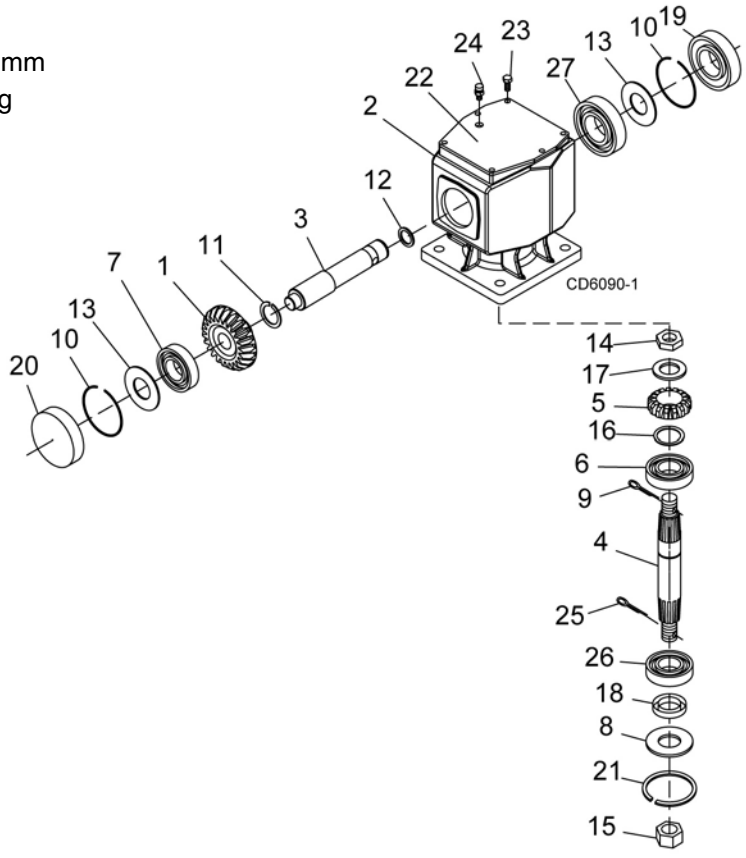


Figure 19. Gearbox Assembly

Vertical Shaft Repair (Figure 19)

1. Disconnect and remove the driveline from the gearbox.
2. Remove vent plug (24) and siphon gear lube from housing through this opening.
3. Remove gearbox stand from mower deck.
4. Remove gearbox and pulley from gearbox stand.

5. Remove vertical shaft seal (18). Replace with new seal (see Seal Replacement, page 29).

Vertical seal should be recessed in housing. Horizontal seal should be pressed flush with outside of housing.

NOTE: Distortion to seal cage or damage to seal lip will cause seal to leak.

6. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.
7. Assemble gearbox and pulley to gearbox stand. Attach gearbox stand to mower deck.

Horizontal Leak Repair (Figure 19)

1. Disconnect and remove the driveline from the gearbox.
2. Remove vent plug (24) and siphon gear lube from housing through this opening.
3. If the leak occurred at either end of horizontal shaft, remove oil cap (20) and/or oil seal (19). Replace with new one (refer to Seal Replacement, page 29).
4. Fill gearbox with SAE 80W or 90W gear lube until it runs out the level plug.

Gearbox Disassembly (Figure 19)

1. Remove top cover (22) from housing. Turn gearbox upside down and pour out remaining gear oil from gearbox.
2. Remove oil cap (20) (to be replaced).
3. Remove snap ring (10) and shim (13) from input shaft (3).
4. Support gearbox in hand press and push on input shaft (3) to remove bearing (7) and spacer (11).
5. Remove gear (1) from inside housing.
6. Remove oil seal (19) from front of housing (to be replaced).
7. Remove snap ring (10) and shim (13) from front of housing (2).
8. Remove input bearing (7) by using a punch and hammer from outside of housing.
9. Support housing in vise in a horizontal position.
10. The castle nut (15) and cotter pin (25) are already removed with the drive sheave. Remove the snap ring (21), washer (8), and seal (18).
11. Remove cotter pin (9), castle nut (14), and washer (8) from output shaft (4).
12. Remove output shaft (4) by using a punch and hammer and tap on top to drive down.
13. Remove gear (5) and shim (16) from inside housing.
14. Remove bearing (26) by using a punch and hammer from the top, outside the housing.
15. Support housing upside down (top cover surface) and remove bearing (6) by using a punch and hammer from the bottom side of the housing.
16. Inspect gears for broken teeth and wear. Some wear is normal and will show on loaded side. Forged gear surfaces are rough when new. Check that wear pattern is smooth.
17. Inspect vertical and horizontal shafts for grooves, nicks, or bumps in the areas where the seals seat. Resurface any damage with emery cloth.
18. Inspect housing and caps for cracks or other damage.

Gearbox Reassembly (Figure 19)

NOTE: Repair to this gearbox is limited to replacing bearings, seals, and gaskets. Replacing gears, shafts, and a housing is not cost effective. Purchasing a complete gearbox is more economical.

1. Clean housing, paying specific attention to areas where gaskets will be installed.
2. Wash housing and all components thoroughly. Select a clean area for gearbox assembly. Replace all seals, bearings, and gaskets. All parts must be clean and lightly oiled before reassembling.
3. Insert output bearings (6 & 26) in the housing, using a round tube of the correct diameter and a hand press.
4. Slide output shaft (4) through both bearings (6 & 26) until it rests against bearing (6).
5. Slide shim (16) over output shaft (4).
6. Press gear (5) onto output shaft (4) and secure with washer (17), castle nut (14), and cotter pin (9).
7. Apply grease to lower seal lips (18) and press seal over output shaft (4), using a tube of the correct diameter. Be sure not to damage the seal lip. Press in housing so that seal is recessed.
8. Insert protective washer (8) by hand. Install snap ring (21) and position it together with dual lip seal (18) by pressing it into position. Verify that snap ring is seated correctly.
9. Press bearing (7) into the housing, using a round tube of the correct diameter and a hand press. Secure with shim (13) and snap ring (10).
10. Secure snap ring (11) on input shaft (3) if not already secure.
11. Place gear (1) through top of housing and align gear (1) and gear (5) so that gear teeth are a match.

12. While holding gear (1) in place, slide input shaft (3) through gear (1) and bearing (7). Align splines on shaft (3) and gear (1).
13. Slide spacer (12) over input shaft (3) and press bearing onto input shaft (3), using a round tube of the correct diameter and a hand press.
14. Slide shim (13) over input shaft (3) and secure with snap ring (10).
15. Check input shaft end float by moving the input shaft (3) by hand. If end float is higher than 0.012", insert shim between input shaft (3) and rear bearing (7). Repeat until end float is less than 0.012". Check rotational torque by hand. The torque should be less than 2.2 lbs-inch.
16. Check that the gear backlash is between 0.006" and 0.016". You should not have to adjust the backlash.
17. Press in input oil seal (19), using tube of correct diameter. Be careful not to damage seal lip.
18. Press oil cap (20) on to cover the rear of housing, using a tube of the correct diameter.
19. Check gearbox housing for leaks by plugging all holes except one. Apply 4 psi compressed air and immerse the gearbox in water to verify that there are no leaks.
20. Remove gearbox from water and dry off with compressed air. Add SAE 80W or 90W EP oil until it runs out of side level hole. Tighten all plugs.

Gearbox Installation

NOTE: Gearbox is heavy: do not attempt to move without mechanical assistance.

1. Set gearbox on gearbox stand and fasten with bolts and nuts. Torque bolts to 175 lbs-ft.
2. Attach drive sheave to output shaft. Secure using castle nut and hardware previously removed.
3. Attach gearbox stand to mower using four flanged lock nuts.

DRIVE SHEAVE INSTALLATION (FIGURE 20)

1. When gear stand is installed on mower, dimension A (from the top of the mower deck to the center line of the drive pulley) must be 2-7/16" (±1/32"). This is a critical dimension and must be carefully adjusted for proper belt life. Add or subtract shim washers under idler pulley to align with drive pulley.
2. Tighten gear stand hardware.
3. Fill gearbox half full with SAE 90W gear lube.
4. Check level after waiting five minutes to permit lube to work through bearings. Add lube, if necessary, until gearbox is half full.
5. Replace driveline shield. Attach driveline to gearbox.

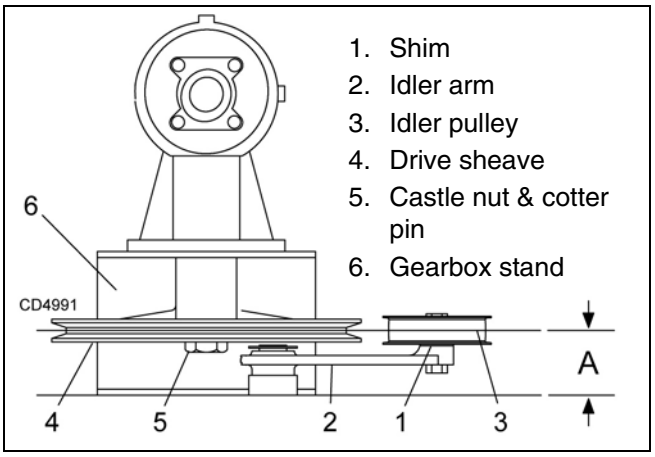


Figure 20. Drive Sheave Installation

UNIVERSAL JOINT REPAIR

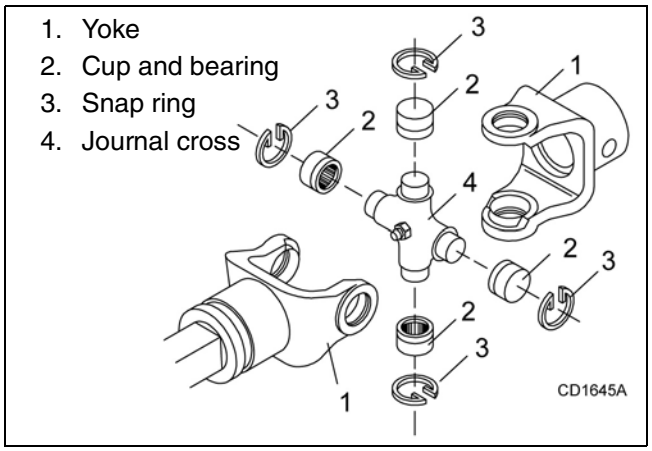


Figure 21. U-Joint Exploded View

U-Joint Disassembly

1. Remove external snap rings from yokes in four locations as shown in Figure 22.

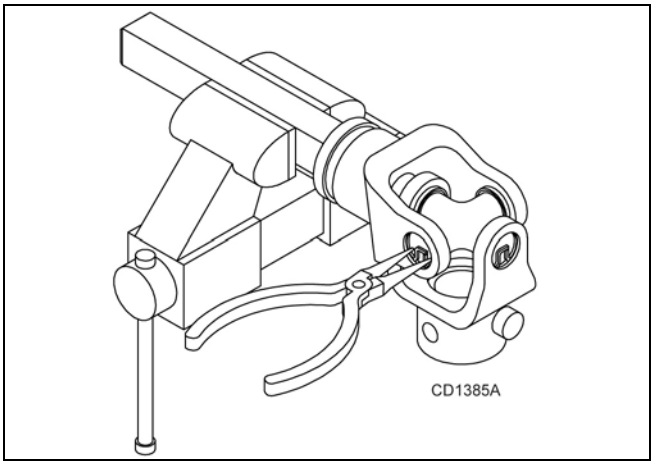


Figure 22

2. With snap rings removed, support drive in vise, hold yoke in hand and tap on yoke to drive cup up out of yoke. See Figure 23.

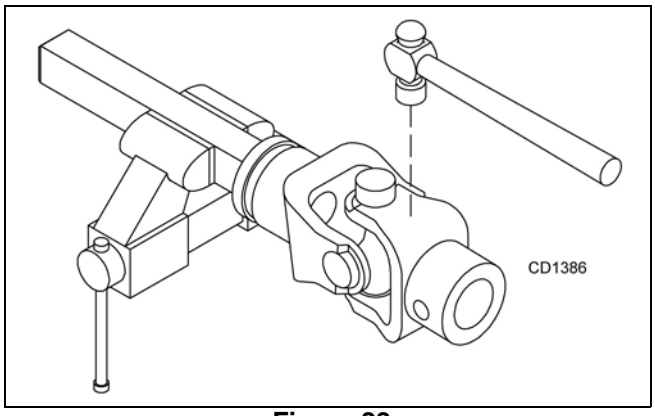


Figure 23

3. Clamp cup in vise as shown in Figure 24 and tap on yoke to completely remove cup from yoke. Repeat Step 2 and Step 3 for opposite cup.

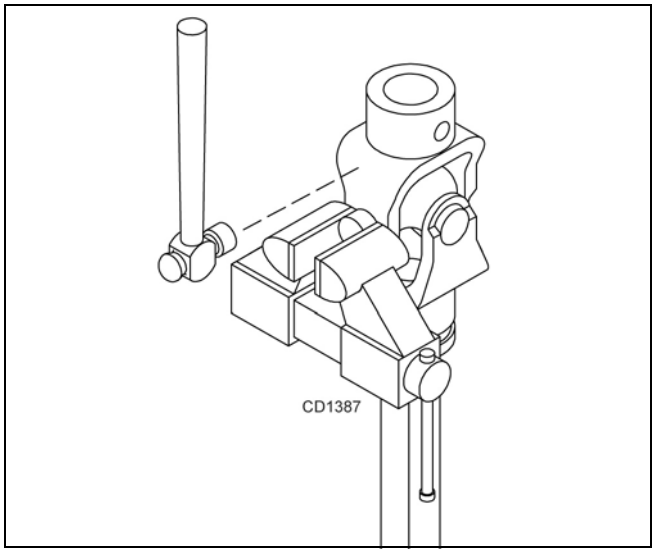


Figure 24

4. Place universal cross is vise as shown in Figure 25 and tap on yoke to remove cup. Repeat Step 3 for final removal. Drive remaining cup out with a drift and hammer.

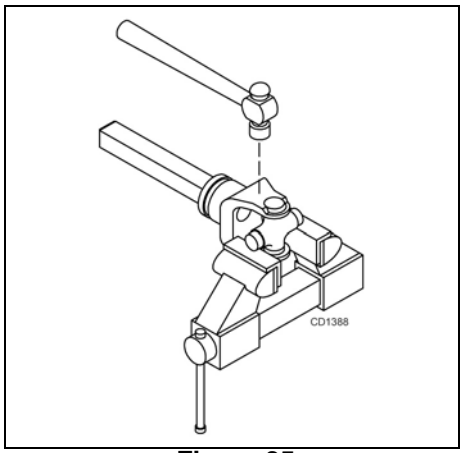


Figure 25

U-Joint Assembly

1. Place seals securely on bearing cups. Insert cup into yoke from outside and press in with hand pressure as far as possible. Insert journal cross into bearing cup with grease fitting away from shaft. Be careful not to disturb needle bearings. Insert another bearing cup directly across from first cup and press in as far as possible with hand pressure.
2. Trap cups in vise and apply pressure. Be sure journal cross is started into bearings and continue pressure with vise, squeezing in as far as possible. Tapping the yoke will help.
3. Seat cups by placing a drift or socket (slightly smaller than the cup) on cup and rap with a hammer. See Figure 26. Install snap ring and repeat on opposite cup.
4. Repeat Step 1 and Step 2 to install remaining cups in remaining yoke.
5. Move both yokes in all directions to check for free movement. If movement is restricted, rap on yokes sharply with a hammer to relieve any tension. Repeat until both yokes move in all directions without restriction.

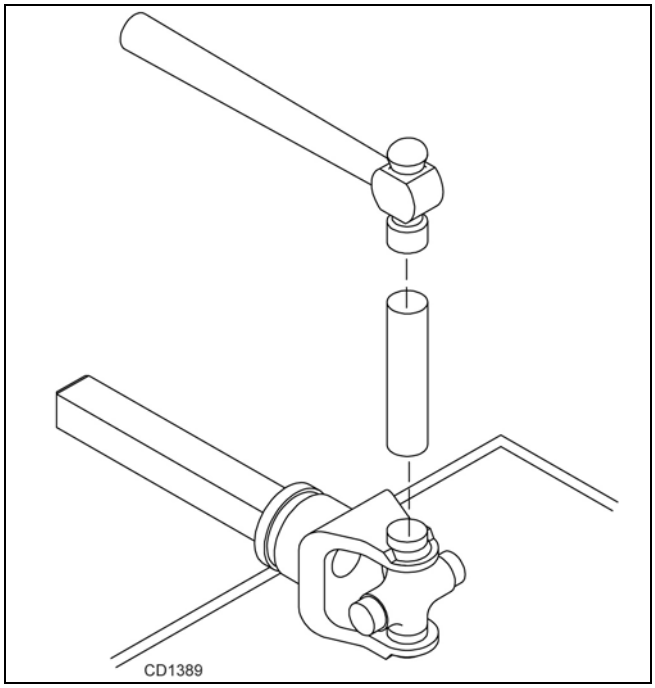


Figure 26

ASSEMBLY INSTRUCTIONS

DEALER SET-UP INSTRUCTIONS

The mower is shipped mostly assembled but requires dealer set-up. The Woods dealer should deliver the mower to the owner completely assembled, lubricated, and adjusted for normal conditions.

Recommended torque values for hardware are located on page 67.

Complete check lists on page 40 when assembly is complete.

⚠ WARNING

■ **Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.**

■ **Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ **Make sure spring-activated locking pin or collar slides freely and is seated firmly in tractor PTO spline groove.**

⚠ CAUTION

■ **Always wear relatively tight and belted clothing to avoid getting caught in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head; and respirator or filter mask where appropriate.**

REMOVE SHIPPING STRAPS

1. Remove front drive from between wing frames.
2. Attach to stub shaft (see trailer assembly).
3. Lift rear deck to take tension off rear lift chains.
4. Remove 3/8 bolts, washers, and nuts from both rear lift chains. See Figure 27. This hardware is for factory shipping purposes only and can be discarded.

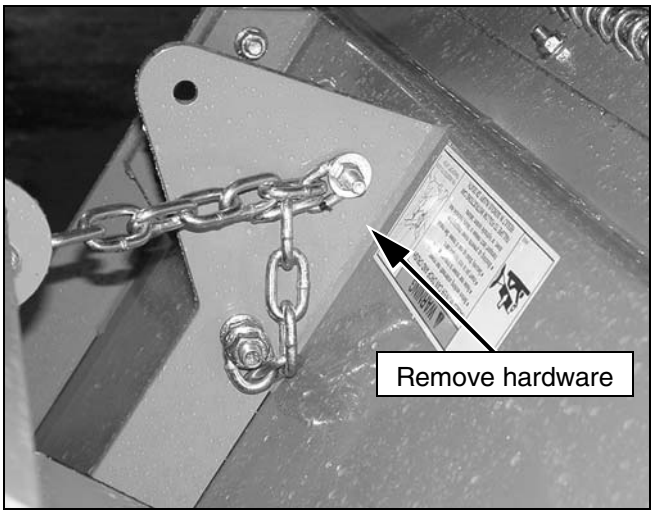


Figure 27. Remove Shipping Hardware

5. Gently lower deck until the deck is supported by the lift chains.
6. Remove 5/8 lock nuts and remove shipping strap from between right and left decks, Figure 28.

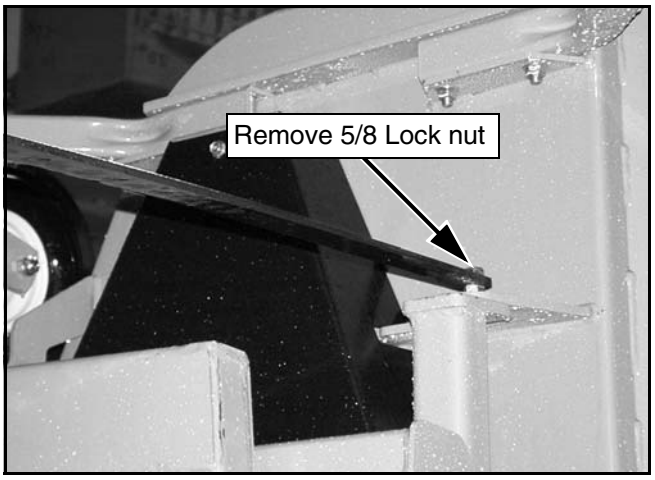


Figure 28. Remove Shipping Strap (Right Wing)

ATTACH HYDRAULIC HOSES

⚠ WARNING

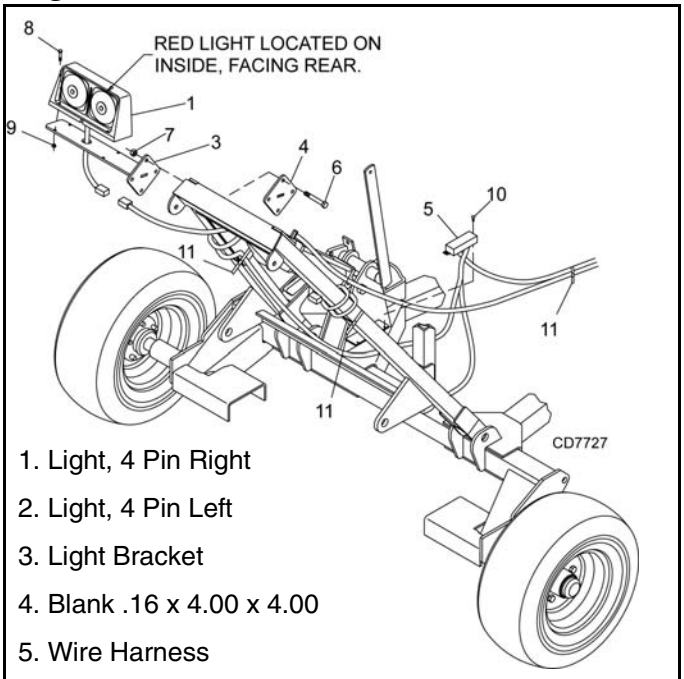
■ **Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.**

Attach the mower hydraulic hose to the tractor port. Hydraulic quick coupler is not supplied.

NOTE: The mower hydraulic system should have been filled at the factory. Always assume it is empty. Fully purge air and fill the hydraulic system by raising and lowering wings several times while hooked to a tractor hydraulic supply. Keep all personnel away while raising and lowering.

OPTIONAL EQUIPMENT

Light Kit Installation

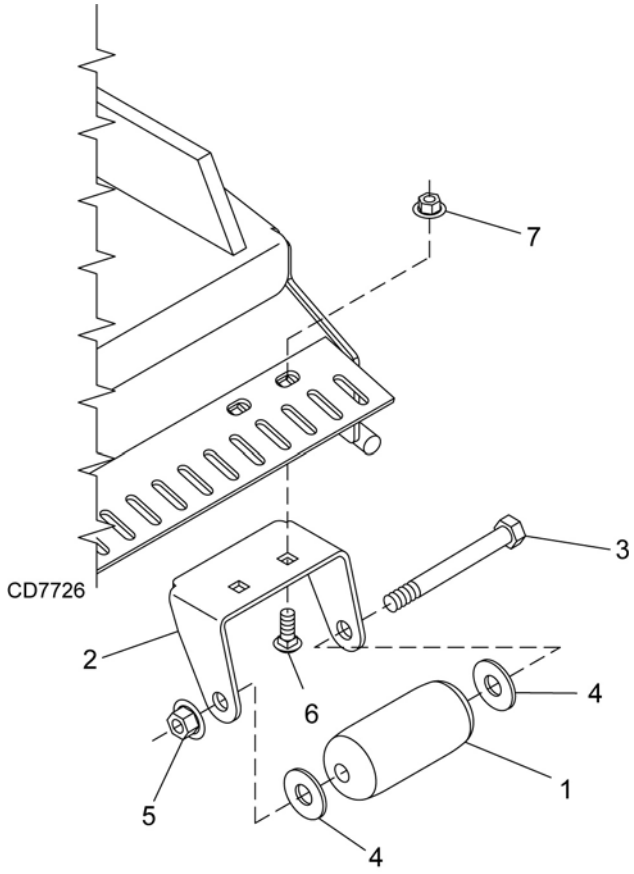


1. Light, 4 Pin Right
2. Light, 4 Pin Left
3. Light Bracket
4. Blank .16 x 4.00 x 4.00
5. Wire Harness
6. 3/8 NC x 3-1/2 HHCS
7. 3/8 NC Flange Lock Nut
8. 1/4 NC x 1 HHCS
9. 1/4 NC Lock Nut
10. #10 x 1/2 Tapping Screw
11. 34" Cable Tie

Figure 29. Light Kit Installation

1. Install wire harness (5) to bracket on trailer frame using #10 screws (10).
2. Route wires as shown. Be sure wire labeled "Left" is routed to the left side of the unit. Wrap excess wire around rear deck frame tubes as shown.
3. Clamp brackets (3) to rear deck frame tubes using blanks (4), 3/8 bolts (6) and nuts (7).
4. Secure left and right lamp (1 & 2) to brackets using 1/4 bolts (8) and nuts (9).
5. Connect light to wiring harness.
6. Pull any slack out of main wire and install cable ties (11) to rear hydraulic hose and trailer frame.
7. Extra slack in the light wires should be located near the wiring harness. Make sure wires cannot become entangled in driveline or hydraulic cylinder. Secure wires to frame tubes above cylinder and lock with cable ties.

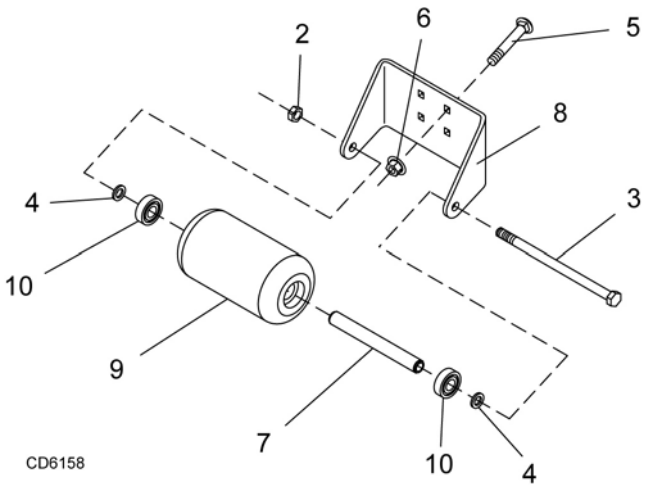
Rear Roller Kit Installation



1. Rear Roller
2. Rear Roller Bracket
3. 1/2 NC x 5-1/2 HHCS
4. 1/2 Flat Washer
5. 1/2 NC Flange Lock Nut
6. 3/8 NC x 1 Carriage Bolt
7. 3/8 NC Flange Lock Nut

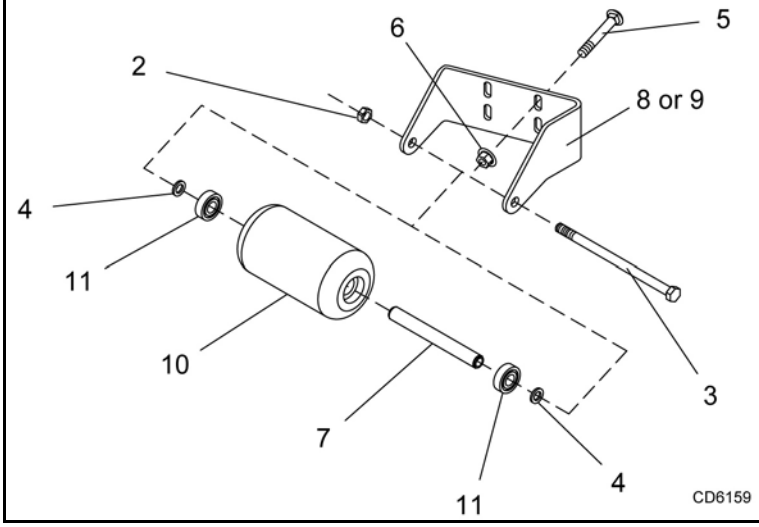
Figure 30. Rear Roller Kit Installation

Front Roller Kit Installation



-- Roller Kit, Front Complete
2. 1/2 NC Flange Lock Nut
3. 1/2 NC x 9 HHCS GR5
4. Flat Washer, 1/2 SAE
5. Carriage Bolt, 3/8 NC x 1
6. Flanged Whiz Nut, 3/8 NC
7. Spacer, .75 x 6.62
8. Bracket, Front Roller
9. Roller, 4 x 7.37
10.Bearing

Figure 31 TBW144 Rear Deck and TBW180 and TBW204 Front Roller Kit Installation



-- Roller Kit, Front Complete
2. 1/2 NC Flange Lock Nut
3. 1/2 NC x 9 HHCS GR5
4. Flat Washer, 1/2 SAE
5. Carriage Bolt, 3/8 NC x 1
6. Flanged Whiz Nut, 3/8 NC
7. Spacer, .75 x 6.62
8. Bracket, Front Roller Right
9. Bracket, Front Roller Left
10. Roller, 4 x 7.37
11. Bearing

Figure 32 TBW144 Wing Deck Front Roller Kit Installation

Hydraulic Latch Release Installation

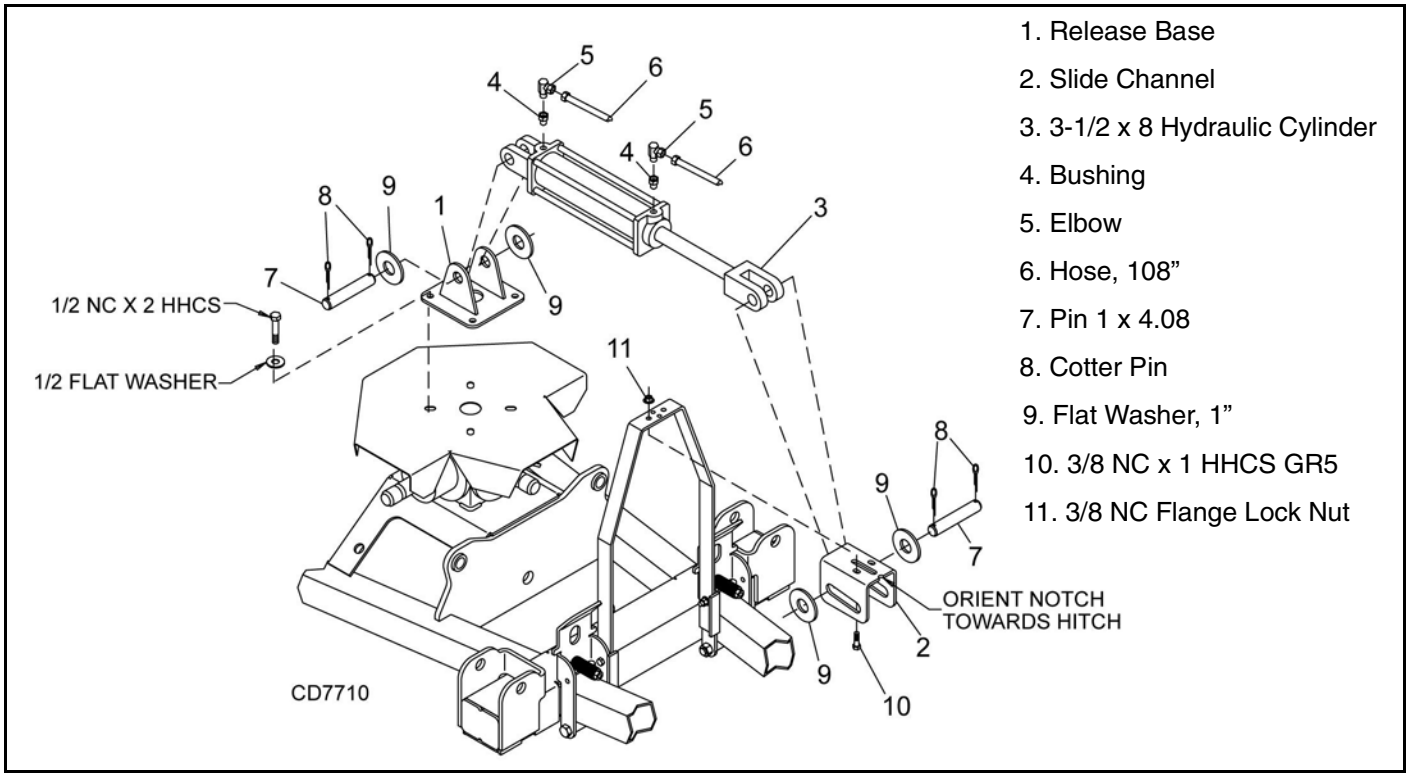


Figure 33. Hydraulic Latch Release Installation

1. Remove four 1/3 NC x 2 hex head cap screws and 1/2” flat washers from top of shield on trailer.

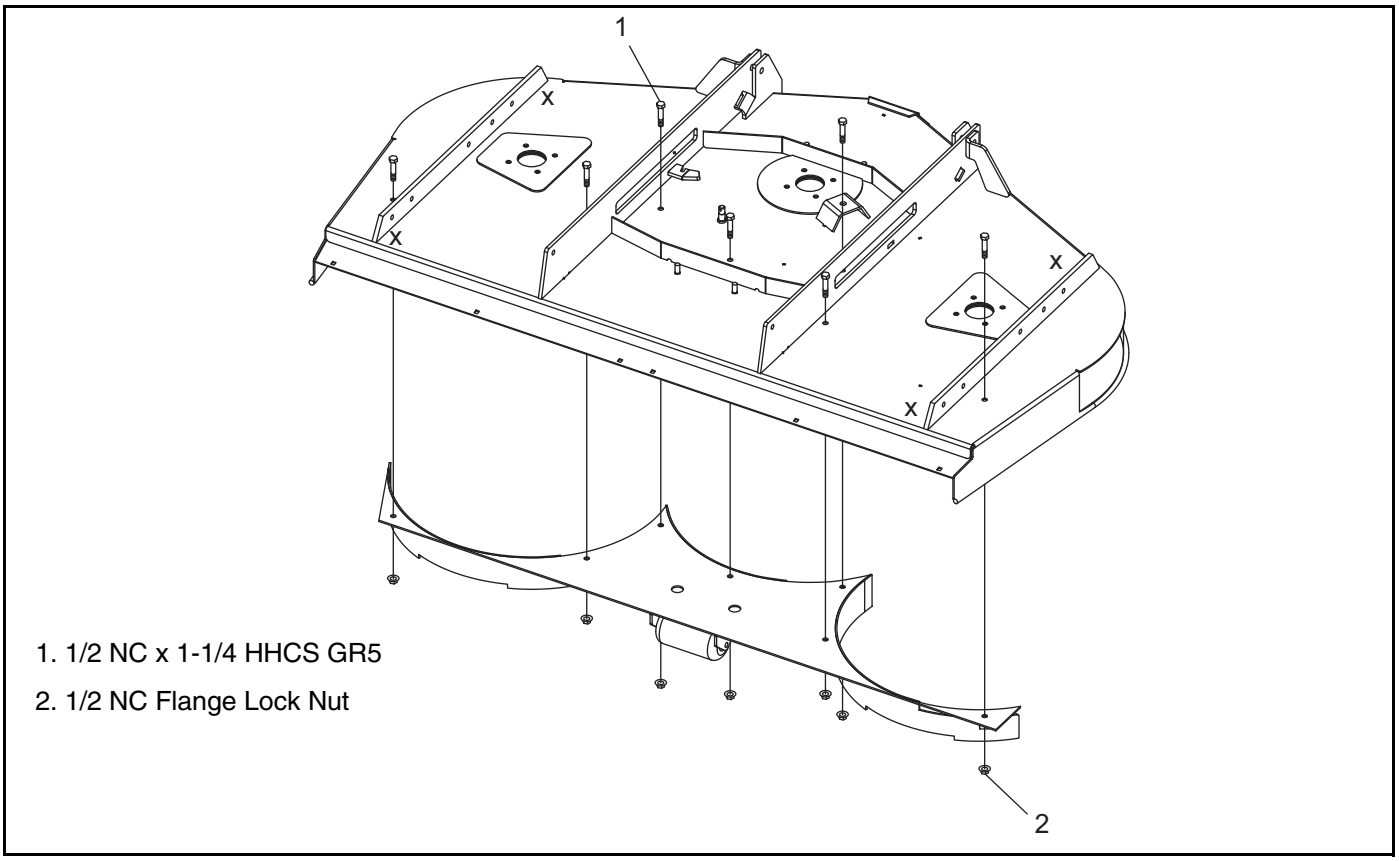
2. Attach item 1 on top of shield using hardware previously removed.

3. Attach item 2 to wing release lever using items 10 and 11.

4. Attach base end of cylinder (3) to item 1 using items 7, 8, and 9. Cylinder ports should be pointing upward.

5. Attach rod end of cylinder (3) to item 2 using items 7, 8, and 9.

6. Install reducers (4), elbows (5), and hoses to base of cylinder.



1. 1/2 NC x 1-1/4 HHCS GR5
2. 1/2 NC Flange Lock Nut

Figure 34. Mulching Kit Installation

NOTE: Use high lift blades for best performance if tractor does not have enough horsepower for the high lift blades, then use low lift blades.

1. Using the tractor 3-point, or suitable lifting device, carefully lower deck onto 4" - 6" high blocks at each corner.
2. Make sure deck is stable before proceeding.
3. Wear safety glasses or goggles to prevent eye injury while drilling holes.
4. Clamp mulching kit in place. Make sure baffles are completely closed-off by the kit.
5. Inspect fit-up to confirm that there will be no contact between blades and kit at any time. Failure to do so will result in product damage and possible injury.
6. Mark the holes to be drilled.
7. Once marked, remove the kit and carefully drill the holes out using a 9/16" drill bit.
8. After holes are drilled, bolt the kit into place torqueing bolts to 85 lbs-ft.

NOTES

DEALER CHECK LISTS

PRE-DELIVERY CHECK LIST (DEALER'S RESPONSIBILITY)

Inspect the equipment thoroughly after assembly to ensure it is set up properly before delivering it to the customer.

The following check lists are a reminder of points to inspect. Check off each item as it is found satisfactory or after proper adjustment is made.

___ Check that all safety decals are installed and in good condition. Replace if damaged.

___ Check that shields and guards are properly installed and in good condition. Replace if damaged.

___ Check all bolts to be sure they are properly torqued.

___ Check that all cotter pins and safety pins are properly installed. Replace if damaged.

___ Check that blades have been properly installed.

___ Check mower attitude and belt alignment

___ Check and grease all lubrication points as identified in lubrication information on page 20.

___ Check the level of gearbox fluids before delivery. Service, if required, as specified in the lubrication information on page 20.

DELIVERY CHECK (DEALER'S RESPONSIBILITY)

___ Show customer how to make adjustments and select proper PTO speed.

___ Show customer how to make sure driveline is properly installed and that spring-activated locking pin or collar slides freely and is seated in groove on tractor PTO shaft.

___ Show customer how to determine the turning limits of the CV PTO driveline.

___ Show customer the safe, proper procedures to be used when mounting, dismounting, and storing equipment.

___ Make customer aware of optional equipment available so that customer can make proper choices as required.

___ Instruct customer how to lubricate and explain importance of lubrication.

___ Point out the safety decals. Explain their meaning and the need to keep them in place and in good condition. Emphasize the increased safety hazards when instructions are not followed.

___ Present Operator's Manual and request that customer and all operators read it before operating equipment. Point out the manual safety rules, explain their meanings and emphasize the increased safety hazards that exist when safety rules are not followed.

___ Explain to customer the potential crushing hazards of going underneath raised equipment. Instruct that before going underneath to disconnect the driveline, securely block up all corners with jackstands and to follow all instructions in BLOCKING METHOD, page 19 of the operator's manual. Explain that blocking up prevents equipment dropping from hydraulic leak down, hydraulic system failures or mechanical component failures.

___ Point out all guards and shields. Explain their importance and the safety hazards that exist when not kept in place and in good condition.

WOODS

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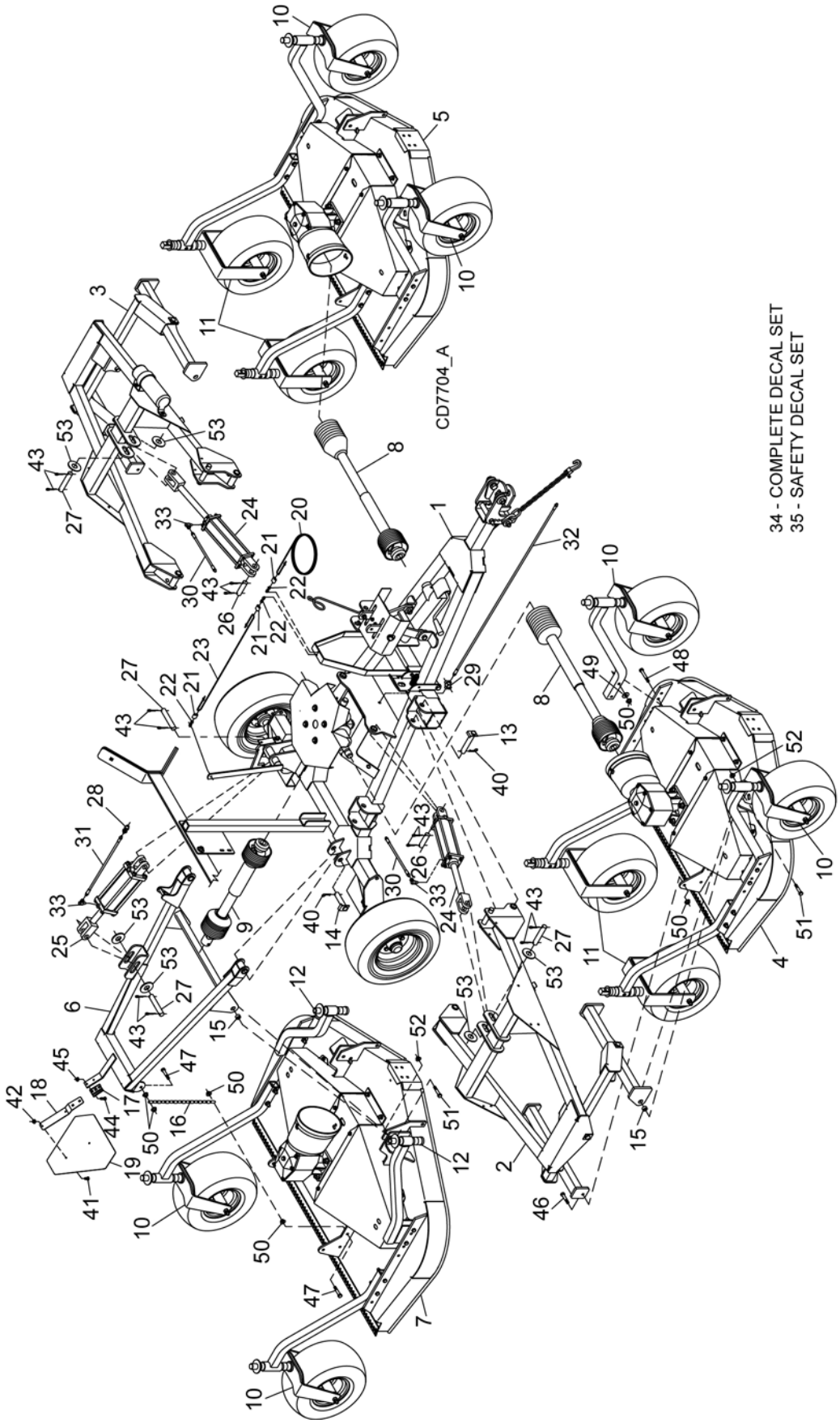
TBW144, TBW180 & TBW204 MAIN FRAME ASSEMBLY



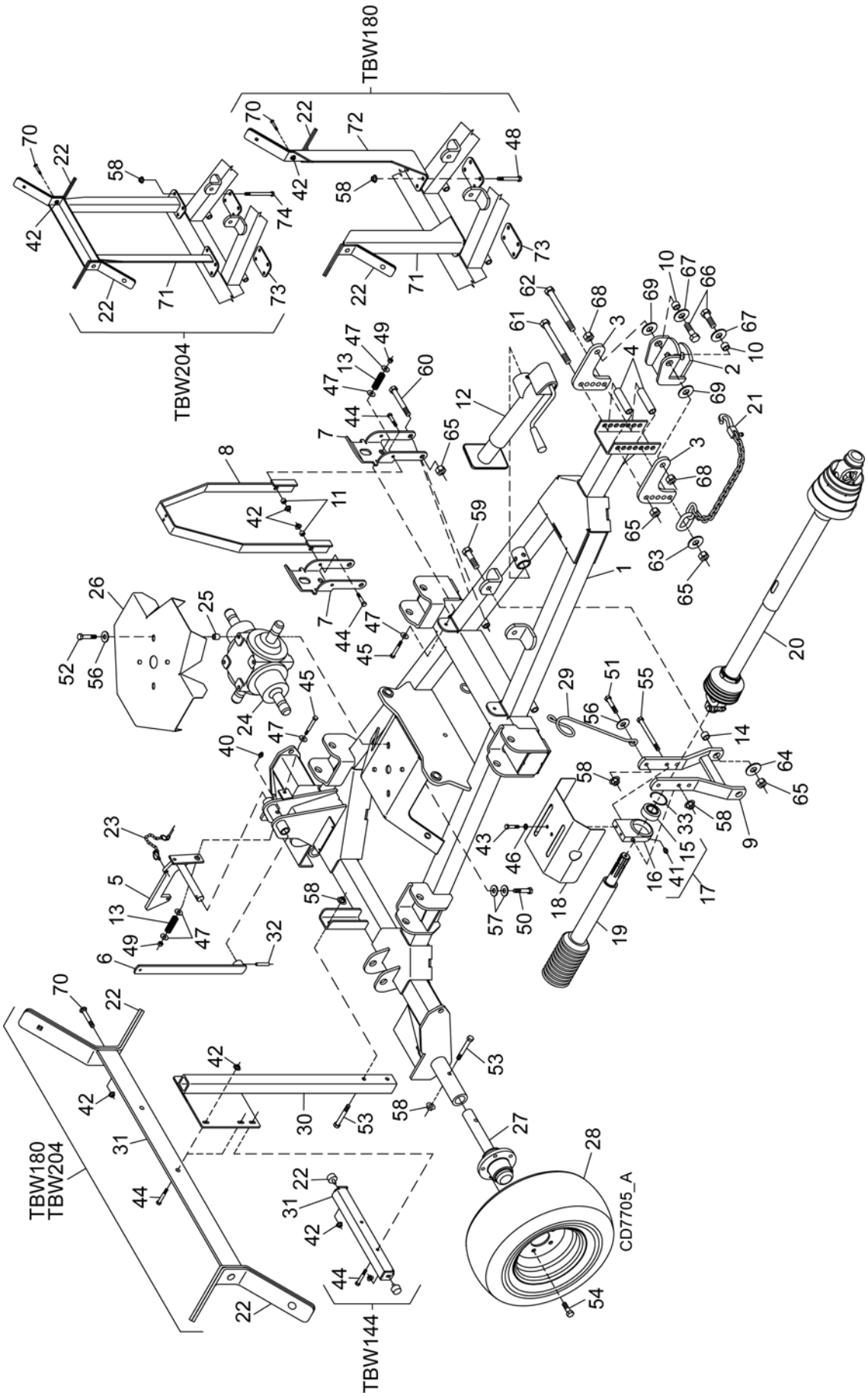
TBW144, TBW180 & TBW204 MAIN FRAME ASSEMBLY

REF	PART	QTY	DESCRIPTION
1	-----	1	Trailer assembly (see page 44)
2	-----	1	Right wing assembly (see page 47)
3	-----	1	Left wing assembly (see page 47)
4	-----	1	Right deck assembly TBW144 (see page 48) -or-
4	-----	1	Right deck assembly TBW180, TBW204 (see page 47)
5	-----	1	Left deck assembly TBW144 (see page 48) -or-
5	-----	1	Left deck assembly TBW180, TBW204 (see page 47)
6	40805	1	Rear wing assembly
7	-----	1	Rear deck assembly (see page 47)
8	1023226	2	Drive, Cmpl 40, 21.3 x 32.3 TBW144 (see page 56) -or-
8	1023227	2	Drive, Cmpl 40, 25.6 x 40.9 TBW180 (see page 56) -or-
8	1023228	2	Drive, Cmpl 40, 28.3 x 46.4 TBW204 (see page 56)
9	1023225	1	Drive, Cmpl 40, 26.9 x 43.5 (see page 56)
10	-----	6	Rotating caster & arm (see page 50)
11	-----	4	Non-rotating caster & arm (see page 50)
12	-----	2	Height adjustment post and arm (see page 49)
13	38001	4	Pin, Wing hinge
14	58984	2	Pin, Rear wing hinge
15	1791	6	.63 x 1.00 x .56 HT Sleeve
16	44638	2	1/4 Chain - 16 link
17	62484	1	SMV Socket
18	1004251	1	SMV Bracket
19	24611	1	SMV Emblem
20	38296	1	Rope, .25 x 95.0
21	38295	3	Rope clamp
22	38257	3	S-Hook .25 x 2.25
23	38294	1	Rope, .25 x 46.0
24	1031166	2	Hydraulic cylinder 3 x 10 (see page 61)
25	29474	1	Hydraulic cylinder 3 x 8 (see page 61)
26	1631	2	1 x 3.63 Headless pin
27	8346	4	1 x 4.58 Headless pin
28	1006400	1	Bulkhead fitting, 9/16 JICM x 1/4 NPTM
29	1006401	1	Cross, 9/16 JICM x 1/4 NPTF
30	1006402	2	Hose, 33 x 9/16 JICF x 9/16 JICM
31	1006403	1	Hose, 48 x 9/16 JICF x 9/16 JICM
32	1006404	1	Hose, 108 x 9/16 JICF x 1/4 NPTM
33	1006405	3	Elbow, 9/16 JICF x 1/2 NPTM 90o w/ 3/32 Restricter
34	40908	1	Complete decal set
35	40883	1	Safety decal set
40	18270	*	Pin, Safety 3/16
41	1282	*	1/4 NC x 1/2 Round head screw
42	5288	*	1/4 NC Hex nut
43	923	*	Pin, Cotter 1/4 x 1-3/4
44	62532	*	5/16 NC x 1/2 Carriage bolt
45	14139	*	5/16 NC Flange lock nut
46	24576	*	1/2 NC x 1-3/4 HHCS GR5
47	62789		1/2 NC x 2 HHCS FT GR5
48	1637	*	1/2 NC x 3-1/2 GR5
49	3598	*	1/2 Flat washer
50	11900	*	1/2 NC Flange lock nut
51	941	*	5/8 NC x 2-1/2 HHCS GR5
52	19025	*	5/8 NC Flange lock nut
53	832	*	1 Standard flat washer

HHCS Hex Head Cap Screw

* Standard Hardware, Obtain Locally

TBW144, TBW180 & TBW204 TRAILER ASSEMBLY



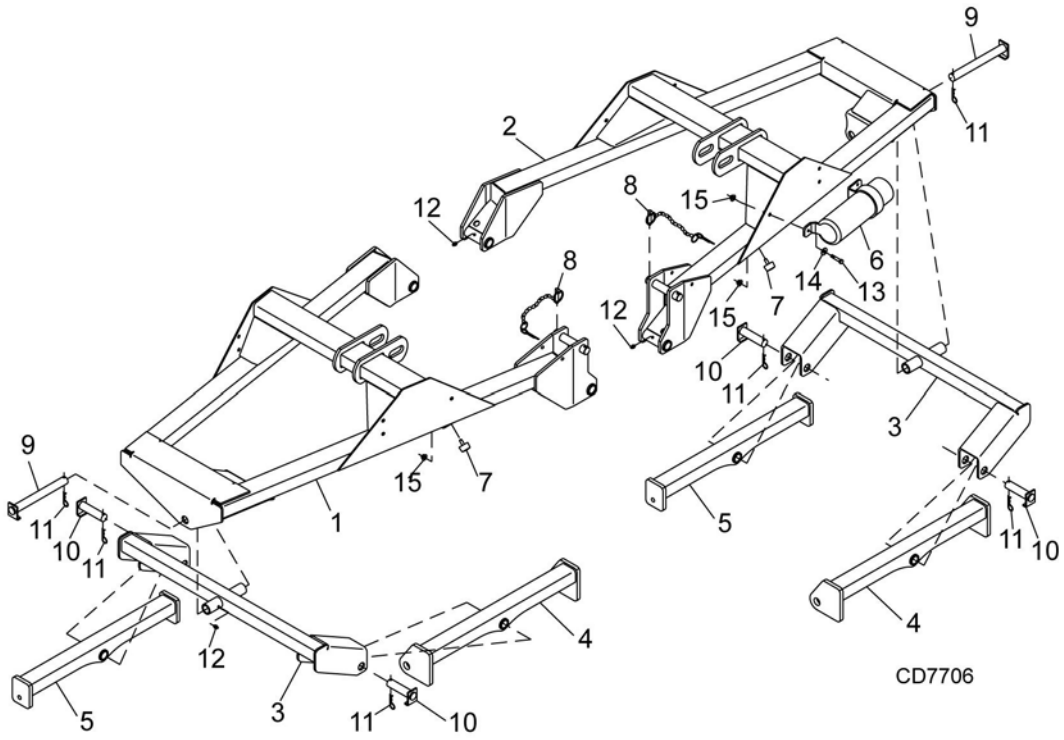
TBW144, TBW180 & TBW204 TRAILER ASSEMBLY

REF	PART	QTY	DESCRIPTION
1	-----	1	Trailer frame
2	1009501	1	Hitch, Cat 1 -or-
2	1009502	1	Hitch, Cat 2 -or-
2	1003635	1	Hitch, rigid clevis (optional)
3	1006689	2	Hitch adjustment link
4	44639	2	.76 x 1.00 x 4.12 Sleeve
5	40804	1	Lock, rear deck
6	40880	1	Release lever, rear deck lock
7	40879	2	Lock, wing deck
8	40938	1	Release lever, wing deck lock
9	19201	1	H-Frame
10	44641	2	.78 x 1.00 x .69 HT Sleeve
11	31464	2	.38 x .63 x .34 Sleeve
12	23790	1	Parking jack
13	21957	3	Spring, compression .58 x .08 x 2.4 40
14	484	2	.63 x 1.00 x .44 HT Sleeve
15	3502	1	Ball bearing
16	-----	1	Bearing housing (not serviced)
17	1251	1	Bearing holder w/bearing (includes 15, 16, 33, 41)
18	44637	1	Shield, front drive
19	-----	1	Drive, Yk & Shft Ntel 2400 x 26.4 (see page 60)
20	1021100	1	Drive, Cmpl CV 35R, 35.0 x 47.6 (see page 58)
21	19407	1	Safety chain
22	62440	2	Rubber bumper, TBW144 -or-
22	1038402	4	Guide liner, TBW180 & TBW204
23	38264	1	Pin, lynch chain & cotter
24	40933	1	Gearbox, 4-Way Splitter
--	58815	2	Seal, Thru Shaft 4-Way Grbx
--	58816	2	Seal, Wing Shaft 4-Way Grbx
--	58817	6	Bearing, Cup & Cone 4-Way Grbx
--	1009083	1	Vent plug & washer
24C	40933C	1	Gearbox, 4-Way Splitter (Comer)
--	57462	4	Bearing, Cup & Cone
--	20890	2	Bearing, Ball
--	57463	4	Oil Seal
--	57076	1	Vent plug
25	62626	4	.76 x 1.00 x 1.00 Sleeve
26	44636	1	Shield, Gearbox 4-Way
27	1001020	2	Wheel Hub & Axle (see page 49)
28	WP38298G	2	Wheel & Tire, 20.5 x 8.00 x 10 Gray
--	38475		Wheel Rim, 5-Bolt 8.00 x 10 Gray
29	3443	1	Hydraulic hose holder
30	1031776	1	Wing stop mount bracket
31	1031780	1	Wing stop, TBW144 -or-
31	1038403	1	Rear wing stop, TBW180 -or-
31	1038184	1	Rear wing stop, TBW204
32	11606	1	Pin, Spirol 3/8 x 1-1/2
33	12128	1	.06 x 72 MM Retaining ring
40	12296	*	1/4-28 Grease fitting
41	2985	*	1/4-28 90° Grease fitting
42	14350	*	3/8 NC Flange lock nut, TBW144 -or-
42	70069	*	3/8 NC Flange whiz nut, TBW180 & 204
43	839	*	3/8 NC x 1 HHCS GR5
44	12169	*	3/8 NC x 1-1/4 HHCS GR5
45	31138	*	3/8 NC x 3-1/2 HHCS GR5
46	838	*	3/8 Lock washer
47	565	*	3/8 Standard flat washer
48	3508	*	1/2 NC x 4-1/2 HHCS GR5
49	6698	*	3/8 NC Lock nut
50	6100	*	1/2 NC x 1-1/4 HHCS GR5
51	24576	*	1/2 NC x 1-3/4 HHCS GR5
52	3699	*	1/2 NC x 2 HHCS GR5
53	3489	*	1/2 NC x 3 HHCS GR5
54	1258	*	1/2 NF x 1-1/8 Wheel bolt
55	65575	*	1/2 NC x 5-1/4 HHCS GR5
56	854	*	1/2 Standard flat washer
57	57811		1/2 Flat washer, extra thick hardened
58	11900	*	1/2 NC Flange lock nut
59	902	*	5/8 NC x 2 HHCS GR5
60	378	*	5/8 NC x 5 HHCS GR5
61	26368	*	5/8 NC x 7 HHCS GR5
62	11043	*	5/8 NC x 7-1/2 HHCS GR5
63	34467		.63 x 2.00 x .38 Flat washer
64	10635		.63 x 1.75 x 14 Ga Cupped washer
65	6239	*	5/8 NC Lock nut
66	13759	*	3/4 x 2-1/4 HHCS GR5
67	28873		3/4 x 1-1/2 x 1/4 Flat washer
68	2371	*	3/4 NC Lock nut
69	44640		1.04 x 2.25 x .17 Cupped washer
70	7701	*	3/8 NC x 1 Plow bolt
71	1038186	1	Front wing stop, TBW204, -or-
71	1038406	1	Front wing stop, Rt, TBW180
72	1038407	1	Front wing stop, Lt, TBW180
73	1038405	2	Base plate

HHCS Hex Head Cap Screw

* Standard Hardware, Obtain Locally

TBW144, TBW180 & TBW204 WING FRAME

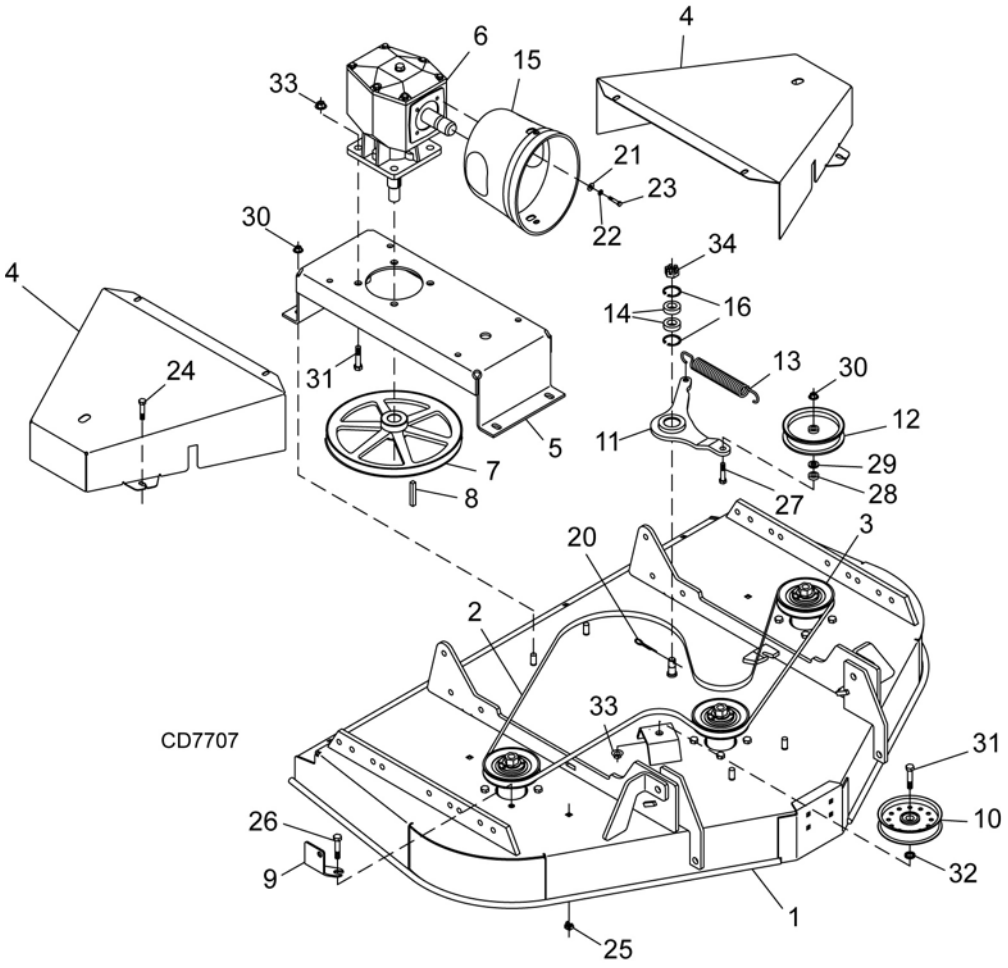


REF	QTY	TBW144	TBW180	TBW204	DESCRIPTION
1	1	1032460	1032480	1032490	Frame, right wing
2	1	1032461	1032481	1032491	Frame, left wing
3	2	1032451	1032455	1032455	Link, wing deck lift
4	2	40895	40895	40887	Trunnion, front deck
5	2	40896	40896	40888	Trunnion, rear deck
6	1	1026530	1026530	1026530	Manual tube
7	2	71444	71444	71444	Rubber bumper
8	2	38264	38264	38264	Pin, lynch chain & cotter
9	2	58980	58980	58980	Pin, wing deck link
10	4	58982	58982	58982	Pin, deck link trunnion
11	*	18270	18270	18270	Pin, safety 3/16
12	*	12296	12296	12296	1/4-28 Grease fitting
13	*	14562	14562	14562	5/16 NC x 1 HHCS GR5
14	*	35155	35155	35155	5/16 SAE Flat washer
15	*	14139	14139	14139	5/16 NC Flange lock nut

HHCS Hex Head Cap Screw

* Standard Hardware, obtain locally

TBW144 CENTER DECK
TBW180 & TBW204 CENTER & WING DECK ASSEMBLY



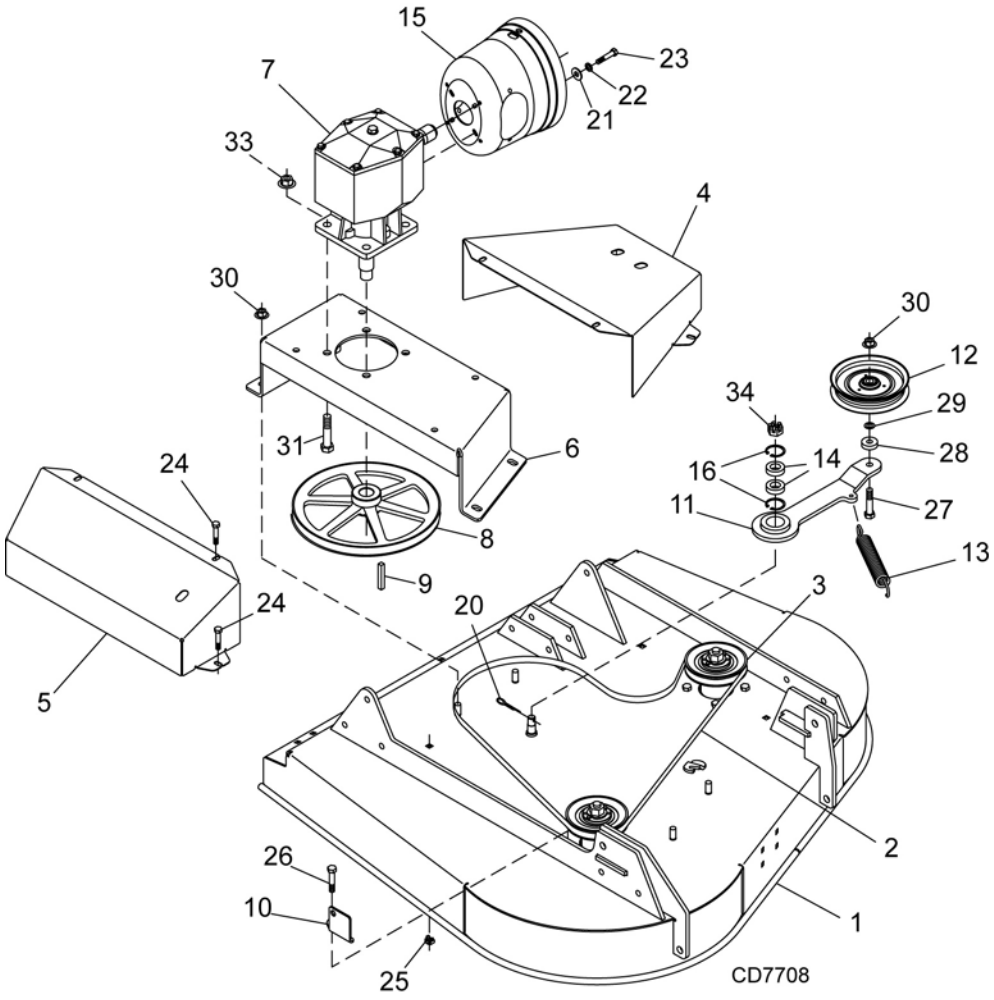
REF	PART	QTY	DESCRIPTION
1	1031795	1	5’ Mower Deck (TBW144 Rear, TBW180 Wings)
1	1031796	1	6’ Mower Deck (TBW180 Rear, TBW204 All)
2	1001244	1	V-Belt W99 (TBW144 Rear, TBW180 Wings)
2	18879	1	V-Belt W112 (TBW180 Rear, TBW240 All)
3	----------	3	CW Spindle assembly (See page 53)
4	1014417	2	Belt Shield, 5’ Deck (TBW144 Rear, TBW180 Wings)
4	1014418	2	Belt Shield, 6’ Deck (TBW180 Rear, TBW204 All)
5	53534	1	Gearbox Stand
6	1002499	1	Gearbox, 1:1.92 (See page 52)
7	1014410	1	Sheave, Offset 13.25 P.D.
8	29792	1	Key, HT 1/4 x 1/4 x 1-1/4
9	53567	1	Guide, Belt 8 Ga Formed
10	64555	1	Idler, Flat 5.5 Dia.
11	58989	1	Idler Arm Assembly
12	53595	1	Idler, Flat 5.0 Dia.
13	67131	1	Spring, Ext .177 x 1.22 x 9.88
14	35193	2	Bearing, Ball

REF	PART	QTY	DESCRIPTION
15	1002048	1	Clutch Shield
16	35141	2	Ring, Retaining Int .062 x 1.56
20	1266	*	Pin, Cotter 3/16 x 1-1/2
21	35155	*	Washer, Flat 5/16
22	2472	*	Lock Washer, 5/16
23	24801	*	M8 x 1.25P x 20 MM HHCS
24	62153	*	3/8 NC x 1 Hex Flange Serrated
25	1008011		3/8 NC SQ Nut with Retainer
26	4358	*	Screw, HHCS 1/2 NF x 1-1/4 GR5
27	639	*	1/2 NC x 2-1/2 HHCS GR5
28	24537		Washer, Flat .50 x 1.38 x .38
29	31983		Shim, .50 x .88 x 18GA
30	11900	*	Flange Lock Nut 1/2 NC
31	19024	*	5/8 NC x 1-3/4 HHCS GR5
32	1517		Flat Washer, .63 x 1.38 x 7 GA
33	19025	*	5/8 Flange Lock Nut
34	302178		5/8 NF Castle Nut

HHCS Hex Head Cap Screw

* Standard Hardware, Obtain Locally

TBW144 WING DECK ASSEMBLY



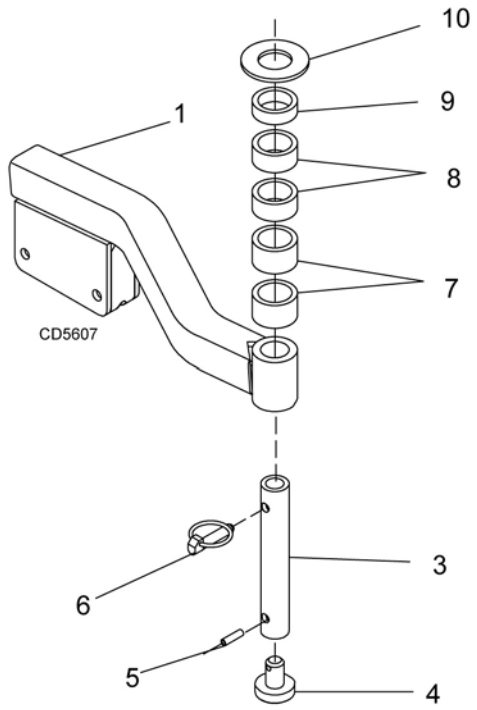
REF	PART	QTY	DESCRIPTION
1	1031800	1	4' Mower Deck, RH **-or-**
1	1031801	1	4' Mower Deck, LH
2	40930	1	V-Belt, W80
3	----------	3	CW Spindle assembly (See page 58)
4	1031783	1	Inner Belt Shield
5	1031784	1	Outer Belt Shield, RH **-or-**
5	1031785	1	Outer Belt Shield, LH
6	58294	1	Gearbox Stand, RH **-or-**
6	58295	1	Gearbox Stand, LH
7	1002499	1	Gearbox, 1:1.92 (See page 52)
8	1014410	1	Sheave, Offset 13.25 PD
9	29792	1	Key, 1/4 x 1/4 x 1-1/4 HT
10	1027525	2	Belt Guide
11	57939	1	Idler Arm Assembly
12	53595	1	Idler, Flat 5.0 Dia
13	67131	1	Spring, Ext .177 x 1.22 x 9.88
14	35193	2	Bearing, Ball
15	1002048	1	Clutch Shield

REF	PART	QTY	DESCRIPTION
16	35141	2	Ring, Retaining Int .062 x 1.56
20	1266	*	Pin, Cotter 3/16 x 1-1/2
21	35155	*	Washer, Flat 5/16 SAE
22	2472	*	Lock Washer, 5/16
23	24801	*	M8 x 1.25P x 20MM HHCS
24	62153	*	Screw 3/8NC X 1 Hex Flange Serrated
25	1008011		Nut, SQ 3/8 NC With Retainer
26	4358	*	Screw, HHCS 1/2 NF x 1-1/4 GR5
27	639	*	HHCS, 1/2 NC x 2-1/2 GR5
28	24537		Washer, Flat .2 x 1.38 x .375
29	31983		Shim, .50 x .88 x 18GA
30	11900	*	Nut, Flanged Lock 1/2 NC
31	19024	*	Screw, Flngd Hex Head 5/8 NC x 1-3/4
33	19025	*	Nut, Flanged Lock 5/8 NC
34	302178		Nut, Castle 5/8 NF

HHCS Hex Head Cap Screw

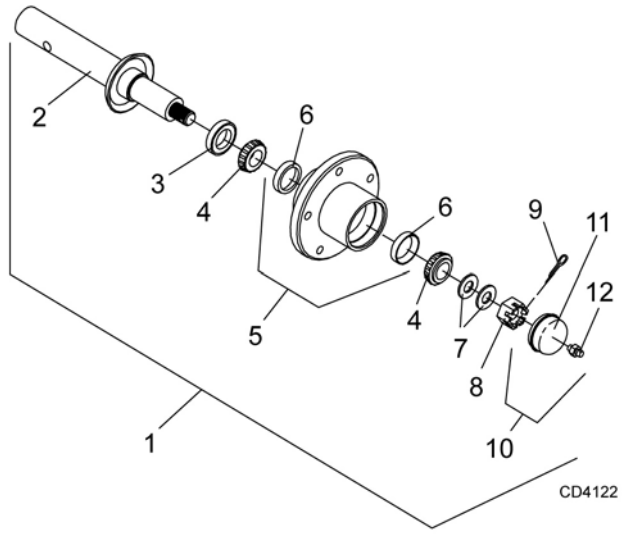
* Standard Hardware, Obtain Locally

HEIGHT ADUSTMENT POST



REF	PART	QTY	DESCRIPTION
1	58993	1	Caster Arm, RH (TBW144) **- or -**
1	1031754	1	Caster Arm, RH (TBW180, TBW204)
2	58994	1	Caster Arm, LH (TBW144) **- or -**
2	1031755	1	Caster Arm, LH (TBW180, TBW204)
3	58998	1	Sleeve, Drid .81 x 1.25 x 8.00
4	58999	1	Wear Pad
5	15134	1	Pin, Spirol .25 x 1.00
6	27542	1	7/16 x 11/32 Klick Pin
7	52855	2	Sleeve, 1.28 x 1.66 x 1.00
8	52854	2	Sleeve, 1.28 x 1.66 x .75
9	52853	1	Sleeve, 1.28 x 1.66 x .50
10	7163	1	Washer, Flat 1-1/4 Standard

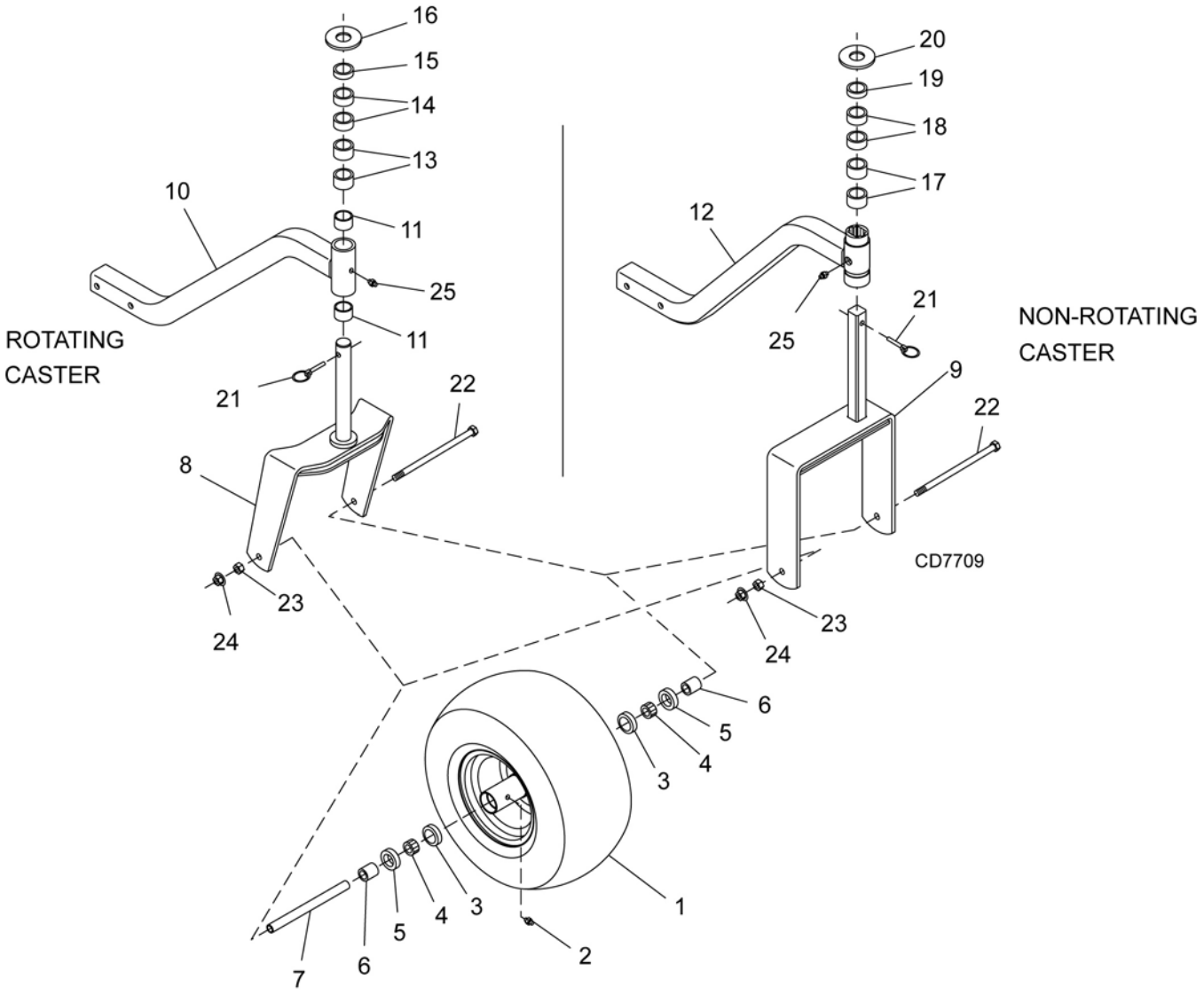
HUB & AXLE ASSEMBLY



REF	PART		QTY	DESCRIPTION
1	1001020		1	Wheel Hub & Axle Assembly
2	1001021		1	Axle Shaft
3	314		1	Seal, 1.50 x 2.44 x .31
4	2303		2	Bearing, Cone
5	38437		1	Wheel Hub, Housing w/Cups
6	2305		2	Bearing, Cup
7	1257	*	2	Washer, Flat 3/4 Standard
8	5849		1	Nut, Slotted Hex 3/4 NF
9	1256	*	1	Pin, Cotter 3/16 x 1
10	14133		1	Hub Cap, Assembly w/Fitting
11	531		1	Hub Cap
12	6270	*	1	Grease Fitting, 1/4 Tapered Thread

* Standard Hardware, Obtain Locally

CASTER ARM & WHEEL ASSEMBLY



CASTER ARM & WHEEL ASSEMBLY

TBW144

REF	PART	QTY	DESCRIPTION
1	WP38267G	1	Wheel, Gray 15.00 x 6.00 x 6
	38476		Wheel Rim 6.00 x 6 w/cups
2	195	1	Grease fitting, 1/8 pipe thread
3	2306	2	Bearing cup
4	2304	2	Bearing cone
5	5624	2	1.13 x 1.78 x .47 Seal
6	14318	2	.75 x 1.13 x 1.25 HT Sleeve
7	38111	1	.53 x .75 x 6.75 HT Sleeve
8	58958	1	Rotating caster yoke
9	58961	1	Non-rotating caster yoke
10	58956	1	Rotating caster arm (includes item 11 & 25)
11	31780	2	1.25 x 1.50 x 1.50 Oilite bushing
12	58968	1	Non-rotating caster arm
13	52855	2	1.25 x 1.90 x 1.00 Sleeve
14	52854	2	1.25 x 1.90 x .75 Sleeve
15	52853	1	1.25 x 1.90 x .50 Sleeve
16	7163	1	1.25 Standard flat washer
17	58987	2	1.50 x 1.90 x 1.00 Sleeve
18	58986	2	1.50 x 1.90 x .75 Sleeve
19	58985	1	1.50 x 1.90 x .50 Sleeve
20	6237	1	1.50 x 2.25 x 13 ga Flat washer
21	27542	1	7/16 x 11/32 Klik pin
22	38107		1/2 NC x 9 HHCS GR5
23	1093	*	1/2 NC Hex nut
24	11900	*	1/2 NC Flange lock nut
25	12296	*	1/4-28 Grease fitting

HHCS Hex Head Cap Screw

* Standard Hardware, obtain locally

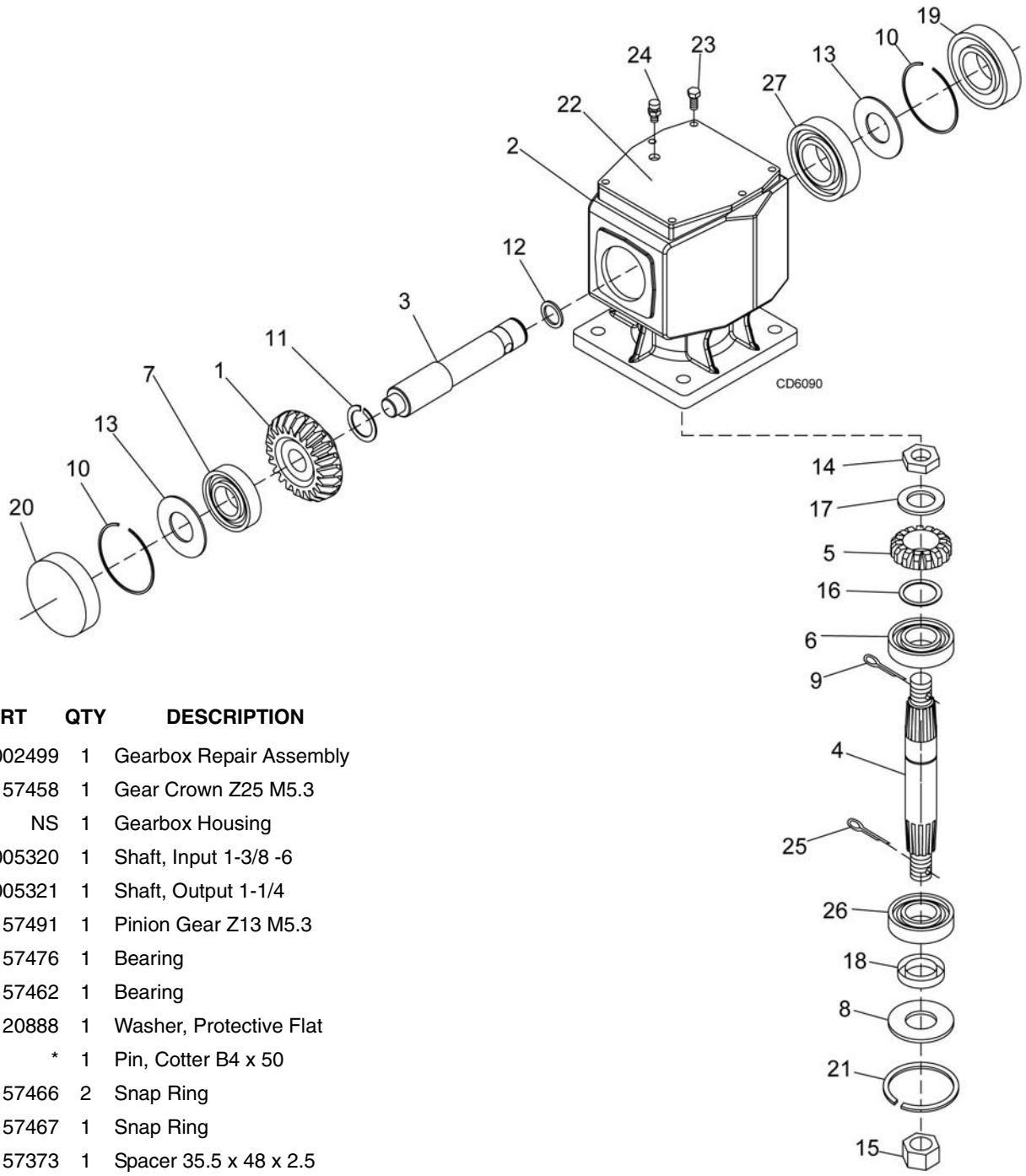
TBW180 & TBW204

REF	PART	QTY	DESCRIPTION
1	WP1031703G	1	Wheel, Gray 18.00 x 9.50 x 8
	1031819		Wheel Rim 9.50 x 8 w/cups
2	195	1	Grease fitting, 1/8 pipe thread
3	2306	2	Bearing cup
4	2304	2	Bearing cone
5	5624	2	1.13 x 1.78 x .47 Seal
6	14318	2	.75 x 1.13 x 1.25 HT Sleeve
7	1031773	1	.53 x .75 x 10.65 HT Sleeve
8	1031700	1	Rotating caster yoke
9	1031714	1	Non-rotating caster yoke
10	1031705	1	Rotating caster arm (includes item 11 & 25)
11	31780	2	1.25 x 1.50 x 1.50 Oilite bushing
12	1031712	1	Non-rotating caster arm
13	52855	2	1.25 x 1.90 x 1.00 Sleeve
14	52854	2	1.25 x 1.90 x .75 Sleeve
15	52853	1	1.25 x 1.90 x .50 Sleeve
16	7163	1	1.25 Standard flat washer
17	58987	2	1.50 x 1.90 x 1.00 Sleeve
18	58986	2	1.50 x 1.90 x .75 Sleeve
19	58985	1	1.50 x 1.90 x .50 Sleeve
20	6237	1	1.50 x 2.25 x 13 ga Flat washer
21	27542	1	7/16 x 11/32 Klik pin
22	1031793		1/2 NC x 13 HHCS GR5
23	1093	*	1/2 NC Hex nut
24	11900	*	1/2 NC Flange lock nut
25	12296	*	1/4-28 Grease fitting

HHCS Hex Head Cap Screw

* Standard Hardware, obtain locally

WING GEARBOX ASSEMBLY

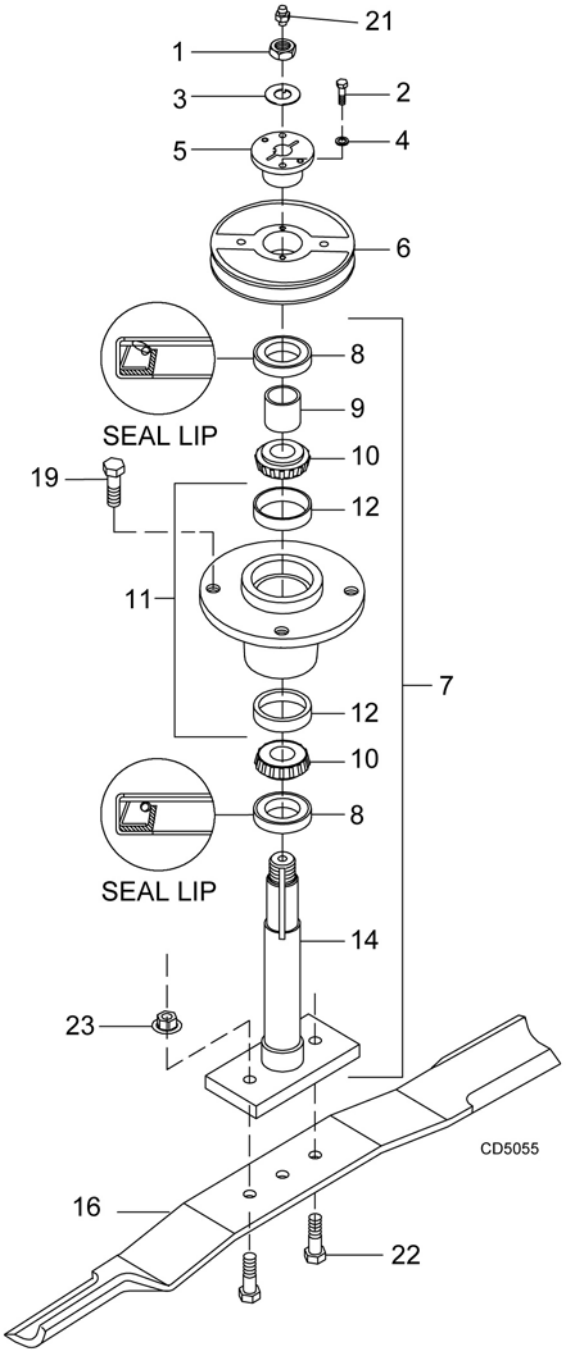


REF	PART	QTY	DESCRIPTION
A	1002499	1	Gearbox Repair Assembly
1	57458	1	Gear Crown Z25 M5.3
2	NS	1	Gearbox Housing
3	1005320	1	Shaft, Input 1-3/8 -6
4	1005321	1	Shaft, Output 1-1/4
5	57491	1	Pinion Gear Z13 M5.3
6	57476	1	Bearing
7	57462	1	Bearing
8	20888	1	Washer, Protective Flat
9	*	1	Pin, Cotter B4 x 50
10	57466	2	Snap Ring
11	57467	1	Snap Ring
12	57373	1	Spacer 35.5 x 48 x 2.5
13	57328	2	Kit, Shim 60.3 x 71.6
14	57468	1	Nut, Castle
15	51946	1	Nut, Castle M24 x 2
16	57328	1	Kit, Shim 30.3 x 44
17	57473	1	Washer, Flat
18	20900	1	Seal, Oil 40 x 80 x 12
19	57463	1	Seal, Oil 35 x 72 x 10
20	57374	1	Cap
21	20897	1	Snap Ring

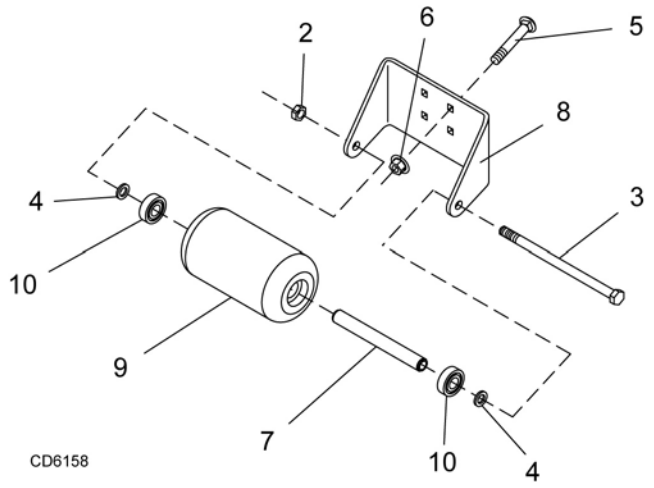
REF	PART	QTY	DESCRIPTION
22	1005322	1	Cover, Top
23	*	6	Bolt 8mm x 14mm
24	57076	1	Plug, Breather 1/2
25	*	1	Pin, Cotter 5 x 50
26	57478	1	Bearing
27	20890	1	Ball bearing
	NS		Not Serviced
	*		Standard Hardware - Obtain Locally

BLADE & SPINDLE ASSEMBLY

REF	PART	QTY	DESCRIPTION
1	37009		Nut, Jam 7/8 NF
2	10378	*	Screw HHCS 1/4 NC x 1 GR5
3	52898		Washer, Lock .929 x 1.66
4	1985	*	Washer, Lock 1/4
5	34440		Bushing, H 1 Strt bore w/key
6	12622		Sheave, H 1 BK 5.0 PD (TBW144 Wing Deck, TBW180 Rear Deck, TBW204 Wing & Rear Deck) **-or-**
6	66694		Sheave, H 1 BK 4.17 PD (TBW144 Rear Deck & TBW180 Wing Deck)
7	52881		Spindle Assembly Complete
8	52949		Seal 1.50 x 2.12 x .31
9	52872		Sleeve 1.14 x 1.50 x .55
10	29899		Bearing, Cone
11	52882		Spindle, Housing With Cups
12	29898		Bearing, Cup
14	52852		Shaft, Blade Spindle
16	7144BDKT		Blade Kit, High Lift TBW144 Complete (7 blades)
16	9180BDKT		Blade Kit, High Lift TBW180 Complete (9 blades)
16	9204BDKT		Blade Kit, High Lift TBW204 Complete (9 blades)
16	7144BDKT2		Blade Kit, Low Lift TBW144 Complete (7 blades)
16	9180BDKT2		Blade Kit, Low Lift TBW180 Complete (9 blades)
16	9204BDKT2		Blade Kit, Low Lift TBW204 Complete (9 blades)
16	1008199KT2		Blade Kit, High Lift, 48 Decks (2 blades)
16	1001511KT2		Blade Kit, Low Lift, 48 Decks (2 blades)
16	1001850KT2		Blade Kit, Mulching, 48” Decks (2 blades)
16	1001513KT		Blade Kit, High Lift, 60 Decks (3 blades)
16	1001510KT		Blade Kit, Low Lift, 60 Decks (3 blades)
16	1001950KT		Blade Kit, Mulching, 60” Decks (3 blades)
16	1008199KT		Blade Kit, High Lift 72 Decks (3 blades)
16	1001511KT		Blade Kit, Low Lift 72 Decks (3 blades)
16	1001850KT		Blade Kit, Mulching, 72 Decks (3 blades)
19	4358		Screw, HHCS 1/2 NF x 1-1/4 GR5
21	1972		Grease Fitting 1/4-28 Tapered Thread
22	3379		Screw, HHCS 1/2 NC x 1-1/2 GR5
23	11900		Nut, Flanged Lock 1/2 NC



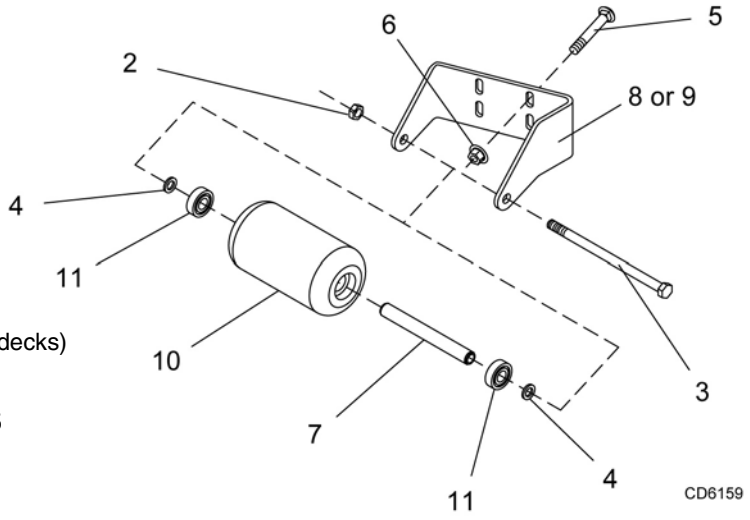
TBW144 REAR DECK AND TBW180 & TBW204 FRONT ROLLER ASSEMBLY (OPTIONAL)



REF	PART	QTY	DESCRIPTION
	1006417KT	1	Front roller kit, complete (one per deck)
2	11900 *	1	1/2 NC Flanged lock nut
3	38107	1	1/2 NC x 9 Cap screw GR5
4	3598	2	1/2 Flat washer SAE
5	6697 *	4	3/8 NC x 1 Carriage bolt
6	70069	4	3/8 NC Flanged whiz nut
7	1006420	1	Spacer, .75 x 6.62
8	1006419	1	Bracket, front roller
9	1006418	1	Roller, 4 x 7.37
10	35193	2	Bearing

* Standard Hardware, Obtain Locally

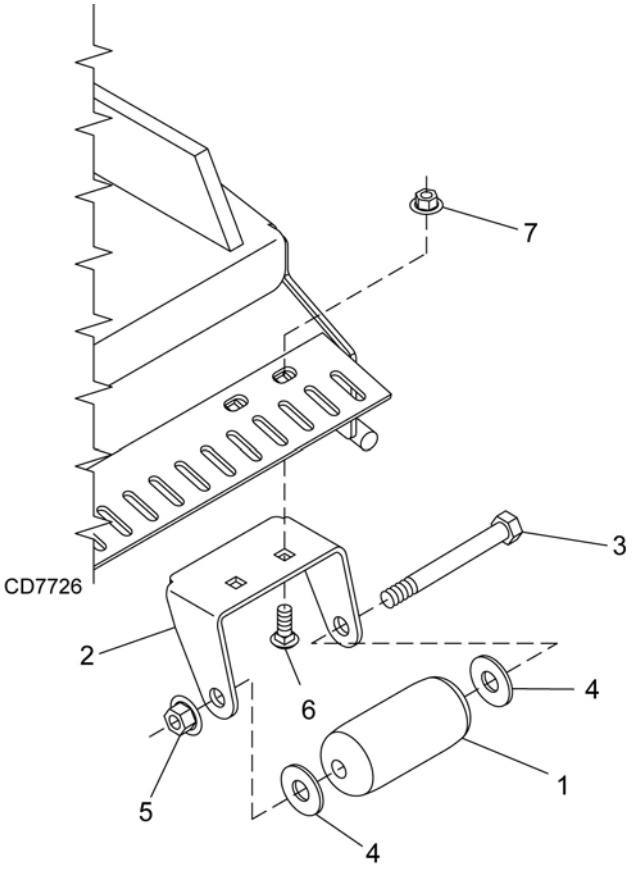
TBW144 WING DECK FRONT ROLLER ASSEMBLY (OPTIONAL)



REF	PART	QTY	DESCRIPTION
	1006421		Roller Kit, Front Complete (for both Right & Left wing decks)
2	11900 *	1	1/2 NC Flanged lock nut
3	38107	1	1/2 NC x 9 Cap screw GR5
4	3598	2	1/2 Flat washer SAE
5	6697 *	4	3/8 NC x 1 Carriage bolt
6	70069	4	3/8 NC Flanged whiz nut
7	1006420	1	Spacer, .75 x 6.62
8	1006422	1	Bracket, front roller right
9	1006423	1	Bracket, front roller left
10	1006418	1	Roller, 4 x 7.37
11	35193	2	Bearing

* Standard Hardware, Obtain Locally

REAR ROLLER ASSEMBLY (OPTIONAL)



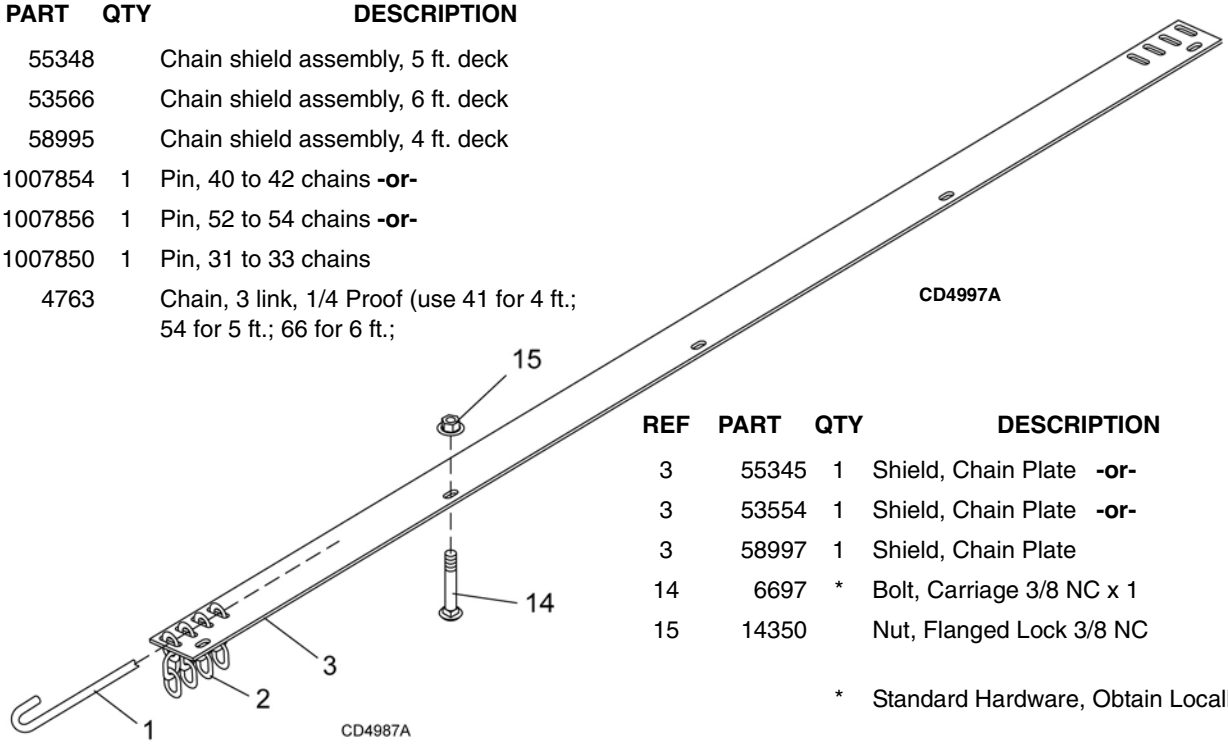
REF	PART	QTY	DESCRIPTION
	1031818	1	Kit, TBW Rear Roller
1	1029865	2	Rear Roller
2	1031723	2	Rear Roller Bracket
3	12305		1/2 NC x 5-1/2 HHCS GR5
4	3598	*	1/2 Flat washer SAE
5	11900	*	1/2 NC Flange Lock Nut
6	6697	*	3/8 NC x 1 Carriage Bolt GR5
7	14350	*	3/8 NC Flange Lock Nut

HHCS Hex Head Cap Screw

* Standard Hardware, Obtain Locally

REAR CHAIN SHIELDING ASSEMBLY

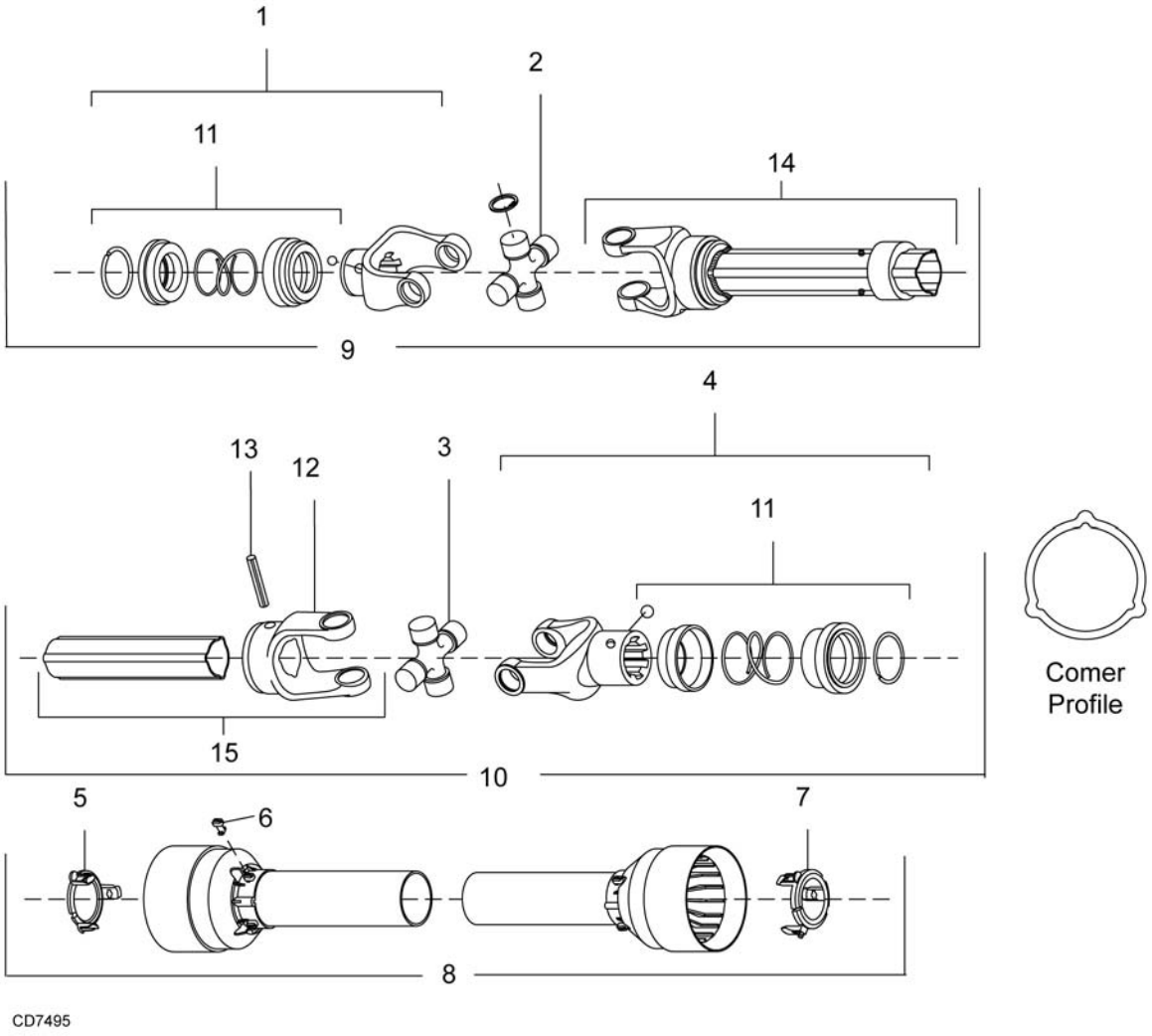
REF	PART	QTY	DESCRIPTION
	55348		Chain shield assembly, 5 ft. deck
	53566		Chain shield assembly, 6 ft. deck
	58995		Chain shield assembly, 4 ft. deck
1	1007854	1	Pin, 40 to 42 chains **-or-**
1	1007856	1	Pin, 52 to 54 chains **-or-**
1	1007850	1	Pin, 31 to 33 chains
2	4763		Chain, 3 link, 1/4 Proof (use 41 for 4 ft.; 54 for 5 ft.; 66 for 6 ft.;



REF	PART	QTY	DESCRIPTION
3	55345	1	Shield, Chain Plate **-or-**
3	53554	1	Shield, Chain Plate **-or-**
3	58997	1	Shield, Chain Plate
14	6697	*	Bolt, Carriage 3/8 NC x 1
15	14350		Nut, Flanged Lock 3/8 NC

* Standard Hardware, Obtain Locally

TBW144, TBW180 &TBW204 REAR & WING DECK DRIVES



TBW144, TBW180 & TBW204 REAR & WING DECK DRIVES

TBW144 Wing Drive

REF	PART	QTY	DESCRIPTION
A	1023226		Drive, Cmpl 40, 21.3 x 32.3
1	1026999	1	Complete collar yoke C12
2	36990	1	U-Joint Repair Kit 50
3	38478	1	U-Joint Repair Kit 2300
4	1001300	1	Complete collar yoke C12 1-3/8 - 6
5	1019442	1	Outer cone fix ring
6	30922	6	Protection fixing screw
7	1019444	1	Inner cone fix ring
8	1026987	1	Complete shield
9	NSS	1	Outer half shaft
10	NSS	1	Inner half shaft
11	1001340	2	Lock collar repair kit
12	1001306	1	Inner tube yoke
13	1001305	1	Flexible pin
14	1026985	1	Outer yoke & tube
15	1026986	1	Inner yoke & tube

TBW180 Wing Drive

REF	PART	QTY	DESCRIPTION
A	1023227		Drive, Cmpl 40, 25.6 x 40.9
1	1026999	1	Complete collar yoke C12
2	36990	1	U-Joint Repair Kit 50
3	38478	1	U-Joint Repair Kit 2300
4	1001300	1	Complete collar yoke C12 1-3/8 - 6
5	1019442	1	Outer cone fix ring
6	30922	6	Protection fixing screw
7	1019444	1	Inner cone fix ring
8	1026990	1	Complete shield
9	NSS	1	Outer half shaft
10	NSS	1	Inner half shaft
11	1001340	2	Lock collar repair kit
12	1001306	1	Inner tube yoke
13	1001305	1	Flexible pin
14	1026988	1	Outer yoke & tube
15	1026989	1	Inner yoke & tube

TBW204 Wing Drive

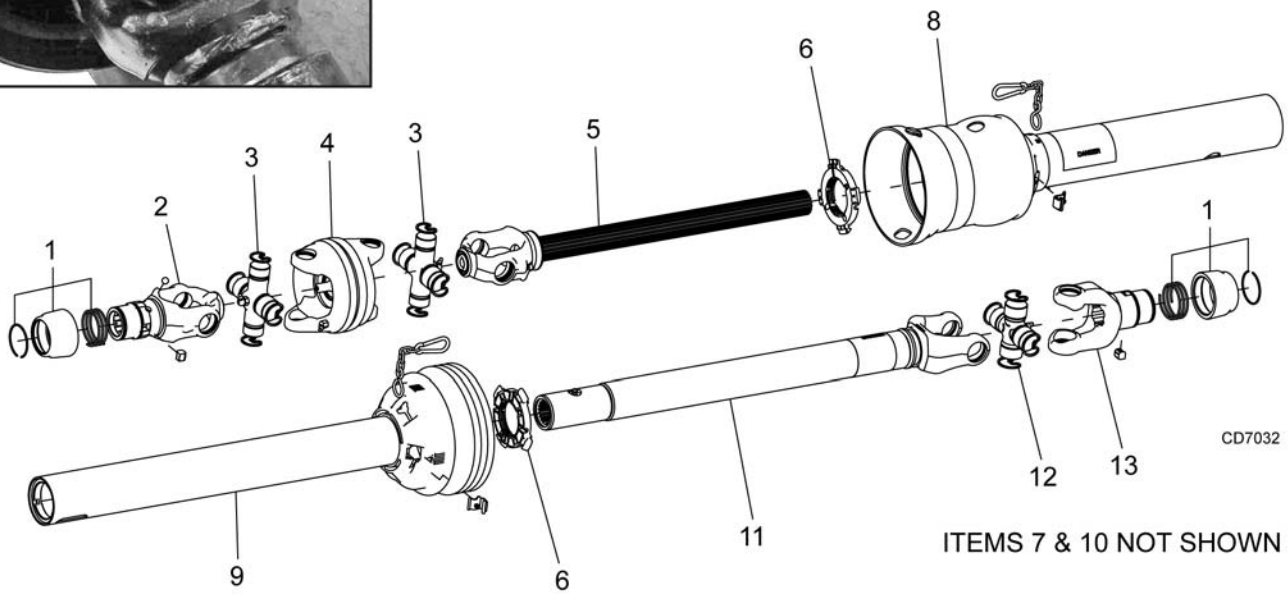
REF	PART	QTY	DESCRIPTION
A	1023228		Drive, Cmpl 40, 28.3 x 46.4
1	1026999	1	Complete collar yoke C12
2	36990	1	U-Joint Repair Kit 50
3	38478	1	U-Joint Repair Kit 2300
4	1001300	1	Complete collar yoke C12 1-3/8 - 6
5	1019442	1	Outer cone fix ring
6	30922	6	Protection fixing screw
7	1019444	1	Inner cone fix ring
8	1026998	1	Complete shield
9	NSS	1	Outer half shaft
10	NSS	1	Inner half shaft
11	1001340	2	Lock collar repair kit
12	1001306	1	Inner tube yoke
13	1001305	1	Flexible pin
14	1026991	1	Outer yoke & tube
15	1026992	1	Inner yoke & tube

Rear Deck Drives

REF	PART	QTY	DESCRIPTION
A	1023225		Drive, Cmpl 40, 26.9 x 43.5
1	1001300	1	Complete collar yoke C12 1-3/8 - 6
2	38478	1	U-Joint Repair Kit 2300
3	38478	1	U-Joint Repair Kit 2300
4	1001300	1	Complete collar yoke C12 1-3/8 - 6
5	1019442	1	Outer cone fix ring
6	30922	6	Protection fixing screw
7	1019444	1	Inner cone fix ring
8	1026984	1	Complete shield
9	1026978	1	Outer half shaft (includes outer half of item 8)
10	1026979	1	Inner half shaft (includes inner half of item 8)
11	1001340	2	Lock collar repair kit
12	1001306	1	Inner tube yoke
13	1001305	1	Flexible pin
14	NSS	1	Outer yoke & tube
15	NSS	1	Inner yoke & tube

NSS Not Serviced Separately

TYPE A - CV DRIVE ASSEMBLY

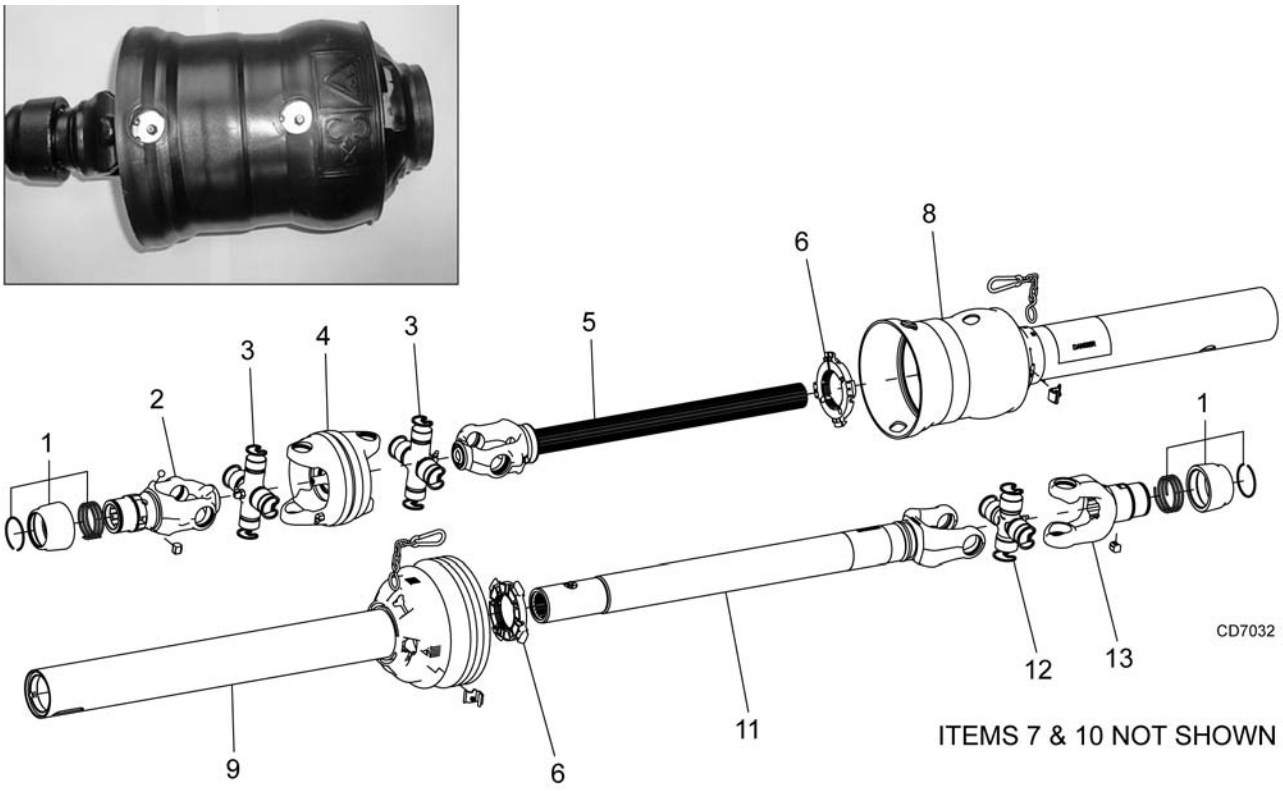


NOTE 1: TWO TYPES OF WEASLER DRIVES ARE USED.
SEE PHOTO TO DETERMINE TYPE.

NOTE 2: LUBE FITTING IN CENTER OF CROSS AND BEARING.

REF	PART	QTY	DESCRIPTION
A	1021100	1	Drive, Cmpl CV 35R, 35.0 x 47.6
1	19851	2	Slide lock repair kit
2	1021301	1	Yoke QD CV 1-3/8 - 6
3	52520	2	U-Joint repair kit 35CV
4	52522	1	CV Body w/fitting
5	1021321	1	Yoke and shaft - CV splined 20.9
6	1024636	2	Drive shaft bearing kit
7	18864	1	Decal, danger rotating driveline
8	1021302	1	Outer shield CV
9	1021303	1	Inner shield CV
10	33347	1	Decal, danger guard missing
11	1021304	1	Yoke and tube 35R x 27.5 x 1.31 - 20
12	110	1	Universal joint repair kit 35N
13	55143	1	Yoke QD 36 1-3/8 - 6

TYPE B - CV DRIVE ASSEMBLY



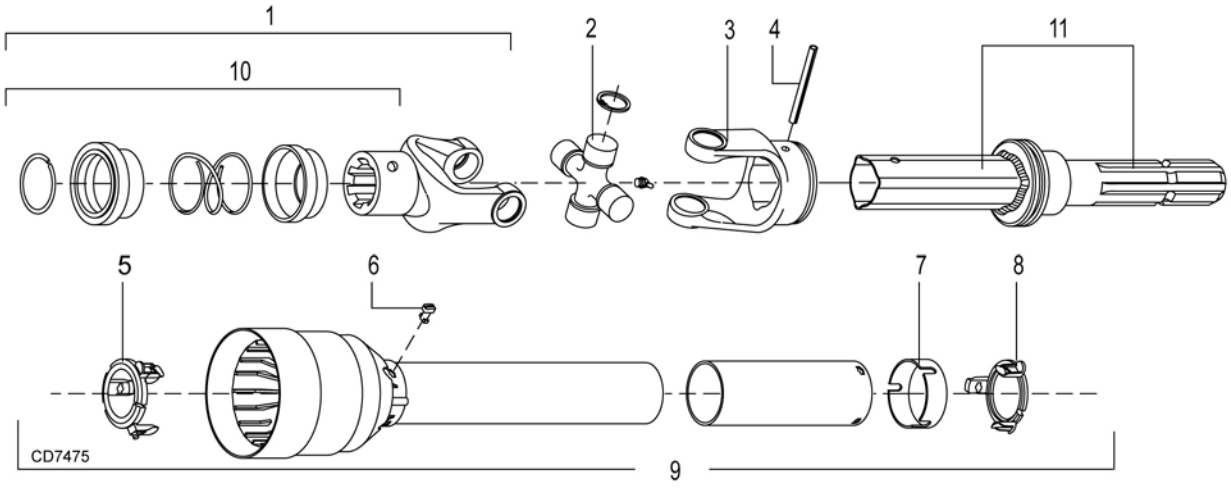
NOTE 1: TWO TYPES OF WEASLER DRIVES ARE USED. SEE PHOTO TO DETERMINE TYPE.

NOTE 2: LUBE FITTING AT END OF CROSS AND BEARING.

REF	PART	QTY	DESCRIPTION
A	1021100	1	Drive, Cmpl CV 35R, 35.0 x 47.6
1	19851	2	Slide lock repair kit
2	1032289	1	Yoke QD CV 1-3/8 - 6
3	1032290	2	U-Joint repair kit CAT 4, 35E
4	1032291	1	CAT 4 CV Body w/fitting
5	1034255	1	Yoke and shaft - CV splined 20.7
6	1024636	2	Drive shaft bearing kit

REF	PART	QTY	DESCRIPTION
7	18864	1	Decal, danger rotating driveline
8	1021302	1	Outer shield CV
9	1021303	1	Inner shield CV
10	33347	1	Decal, danger guard missing
11	1021304	1	Yoke and tube 35R x 27.5 x 1.31 - 20
12	110	1	Universal joint repair kit 35N
13	55143	1	Yoke QD 36 1-3/8 - 6

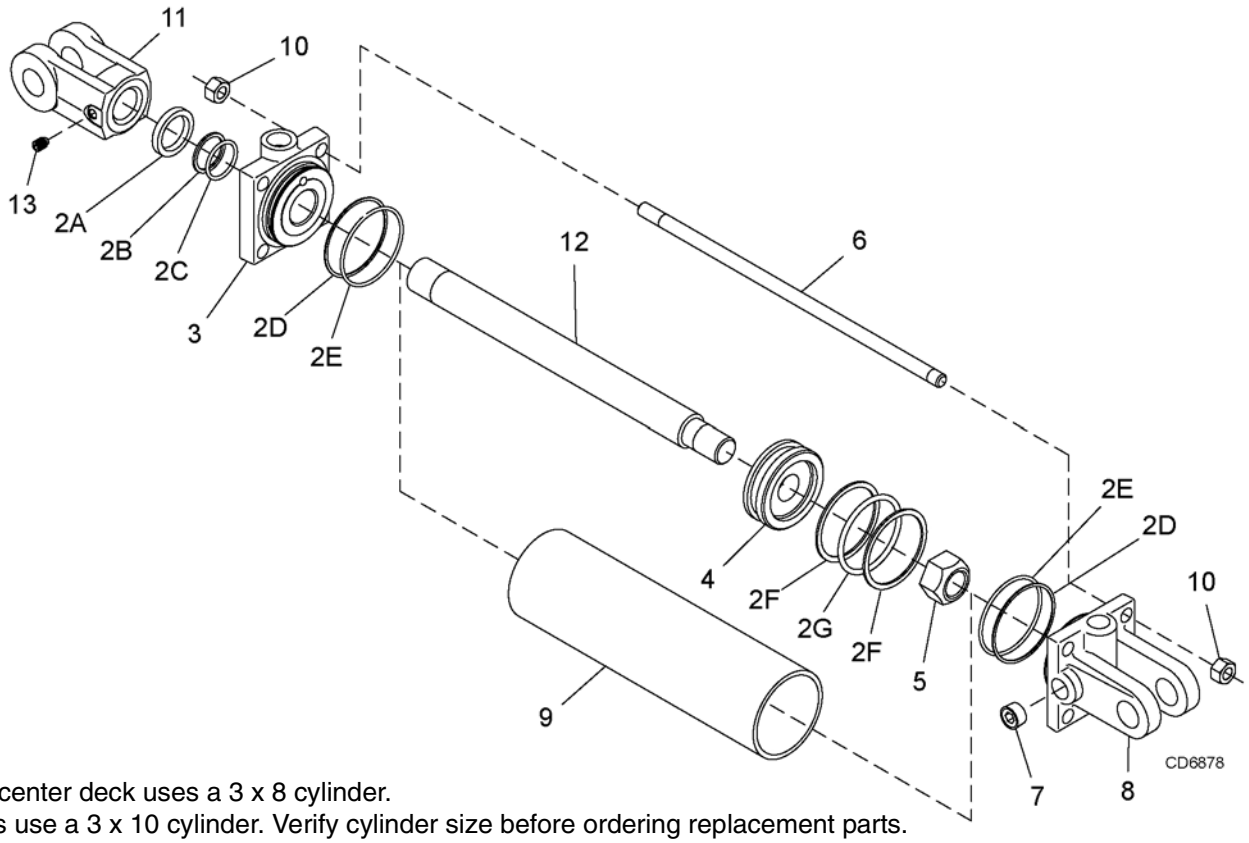
JACKSHAFT DRIVE ASSEMBLY



REF	PART	QTY	DESCRIPTION
A	1011759		Complete jackshaft drive assembly
1	1028775	1	Complete collar yoke
2	36990	1	U-Joint repair kit
3	1011756	1	Yoke, outer
4	1001330	1	Flexible pin
5	1028776	1	Outer bearing ring
6	30922	6	Retainer, shield
7	1011757	1	Centering ring
8	1011755	1	Inner bearing ring
9	1011754	1	Shield, complete (includes 5, 6, 7 & 8)
10	1001340	1	Lock collar repair kit
11	NSS	1	Jackshaft

NSS Not Serviced Separately

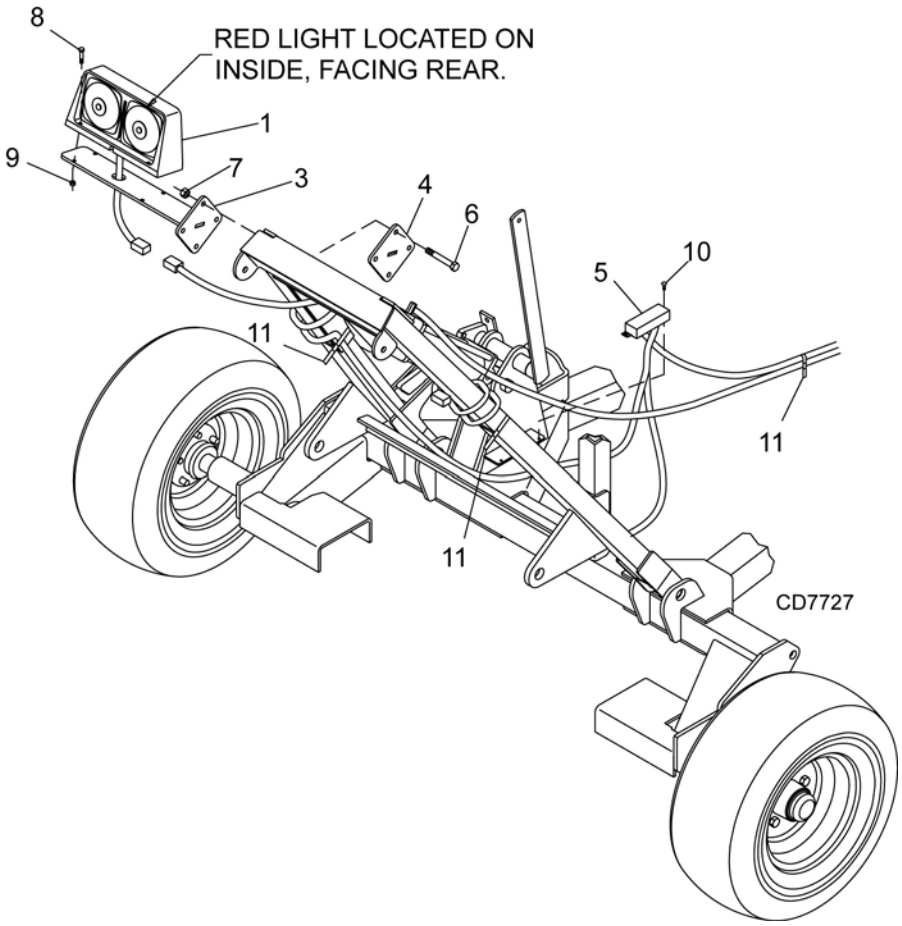
HYDRAULIC CYLINDERS



Note: The center deck uses a 3 x 8 cylinder.
Wing decks use a 3 x 10 cylinder. Verify cylinder size before ordering replacement parts.

REF	3 x 8 PART	3 x 10 PART	QTY	DESCRIPTION
1	29474	1031166		Complete cylinder
2	19810	19810	1	Seal repair kit (includes items 2A - 2G
2A	†	†	1	Wiper seal
2B	†	†	1	Rod seal
2C	†	†	1	Rod O-ring
2D	†	†	2	Cap seal
2E	†	†	2	Cap O-ring
2F	†	†	2	Piston seal
2G	†	†	1	Piston O-ring
3	N/S	N/S	1	Cylinder housing - rod end
4	N/S	N/S	1	Piston
5	N/S	N/S	1	Jam nut
6	N/S	N/S	4	Cylinder tie rod
7	*	*	3	1/2 Pipe plug
8	N/S	N/S	1	Cylinder housing - butt end
9	N/S	N/S	2	Cylinder barrel
10	N/S	N/S	8	Tie rod nut
11	N/S	N/S	1	Cylinder clevis
12	N/S	N/S	1	Cylinder rod
13	*	*	1	Set screw 3/8 x 3/4 dog point
				Included in seal kit
				Standard hardware, obtain locally
				Not serviced

LIGHT KIT (OPTIONAL)



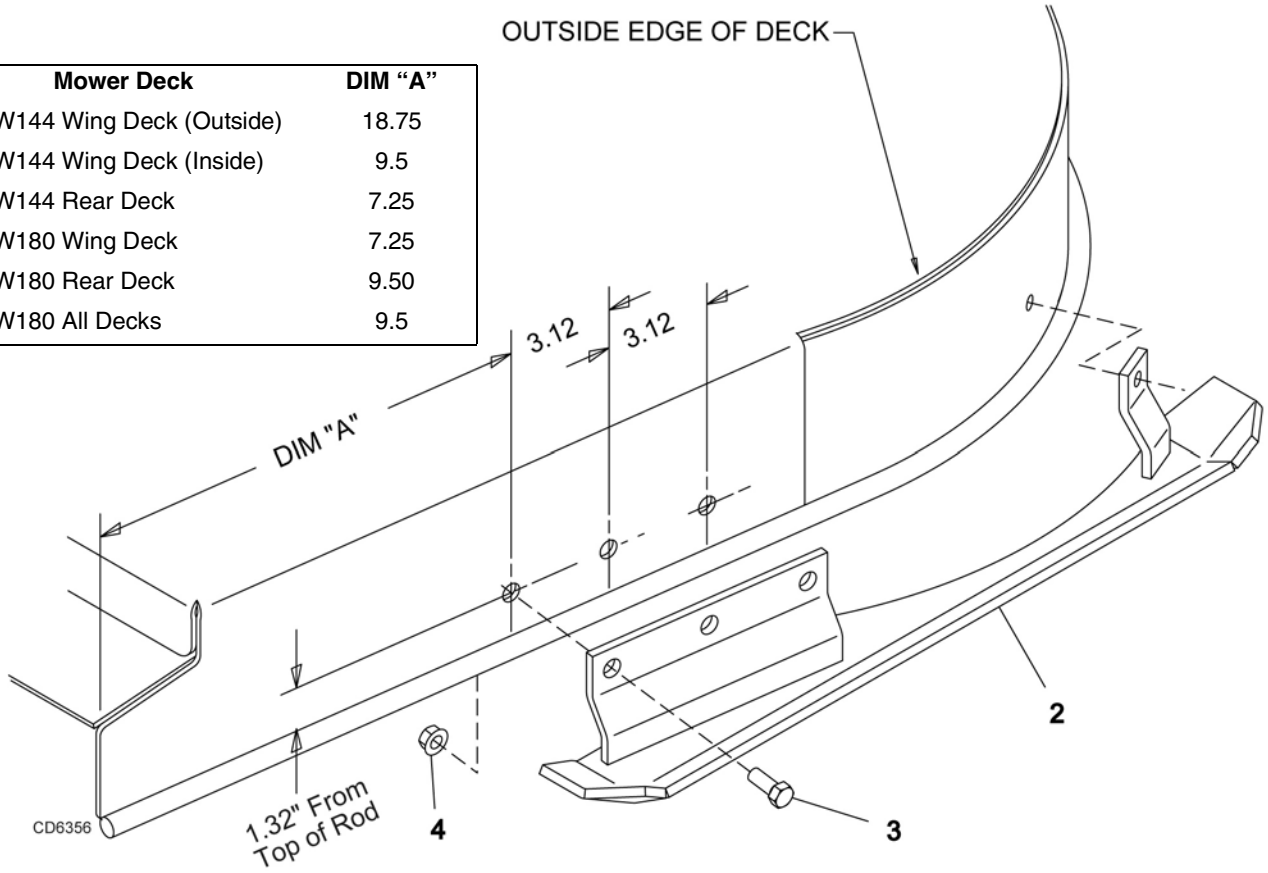
REF	PART	QTY	DESCRIPTION
	1031385		TBW Light kit
1	90401149	1	Light, 4 pin right
2	90401150	1	Light, 4 pin left
3	1031386	2	Light bracket
4	1031388	2	Blank .16 x 4.00 x 4.00
5	1004479	1	Wire harness
6	31138	*	3/8 NC x 3-1/2 HHCS GR5
7	14350	*	3/8 NC Flange lock nut
8	10378	*	1/4 NC x 1 Hex head cap screw GR5
9	6128	*	1/4 NC Lock nut
10	21374	*	#10 x 1/2 Tapping screw
11	65766	*	34 Cable tie

HHCS Hex head cap screw

* Standard hardware, obtain locally

SKID SHOE KIT (OPTIONAL)

Mower Deck	DIM "A"
TBW144 Wing Deck (Outside)	18.75
TBW144 Wing Deck (Inside)	9.5
TBW144 Rear Deck	7.25
TBW180 Wing Deck	7.25
TBW180 Rear Deck	9.50
TBW180 All Decks	9.5



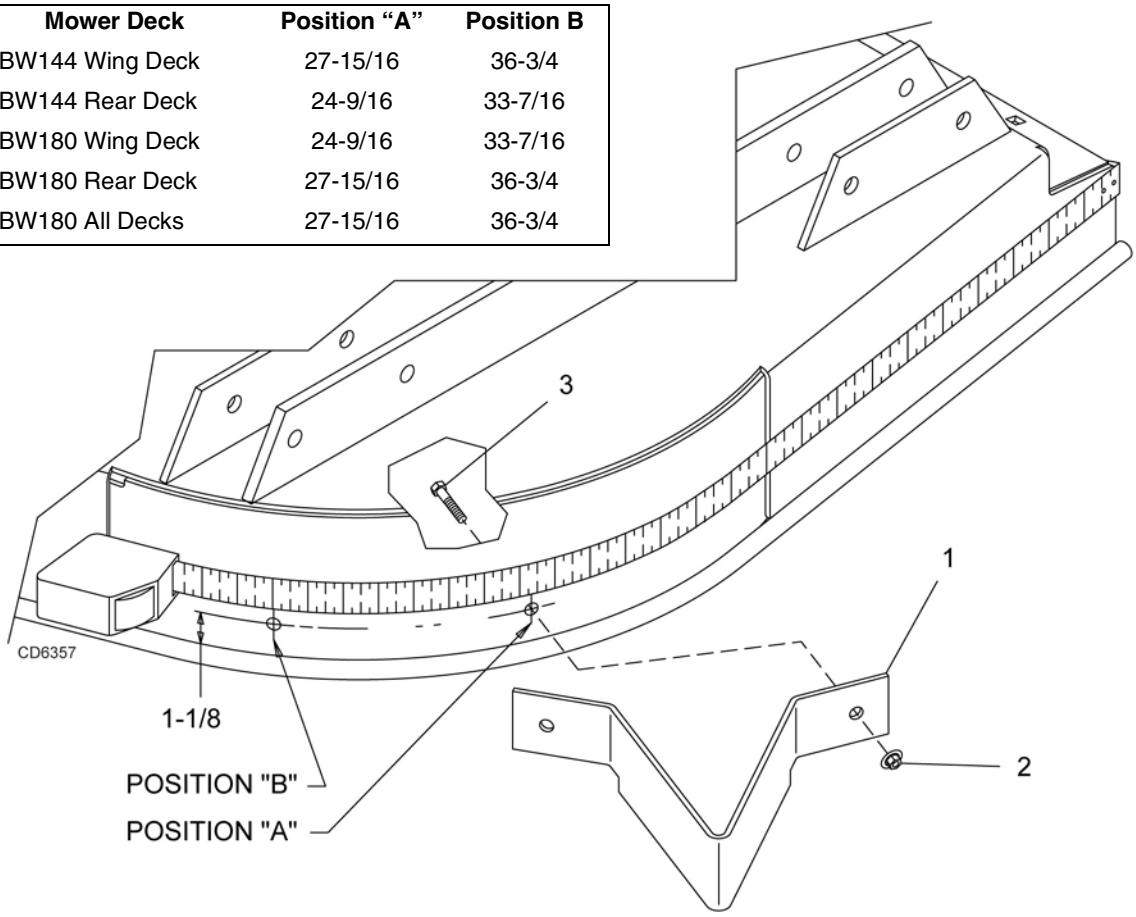
REF	PART	QTY	DESCRIPTION
	10041111		Skid shoe kit (contains 1 left and 1 right skid shoe)
1	1004105	1	Skid shoe, left
2	1004106	1	Skid shoe, Right
3	6100	*	1/2 NC x 1-1/4 Hex head cap screw GR5
4	11900	*	1/2 NC Flange lock nut
		*	Standard hardware, obtain locally

INSTALLATION INSTRUCTION

1. Locate and drill three 17/32" holes using the dimensions from the drawing and table above.
2. Secure skid shoe with three cap screws (3) and flange washers (4).
3. Use the skid shoe as a guide and drill the remaining hole. Make sure skid shoe is parallel to the top of the deck.

ANTI STREAKING KIT (OPTIONAL)

Mower Deck	Position "A"	Position B
TBW144 Wing Deck	27-15/16	36-3/4
TBW144 Rear Deck	24-9/16	33-7/16
TBW180 Wing Deck	24-9/16	33-7/16
TBW180 Rear Deck	27-15/16	36-3/4
TBW180 All Decks	27-15/16	36-3/4

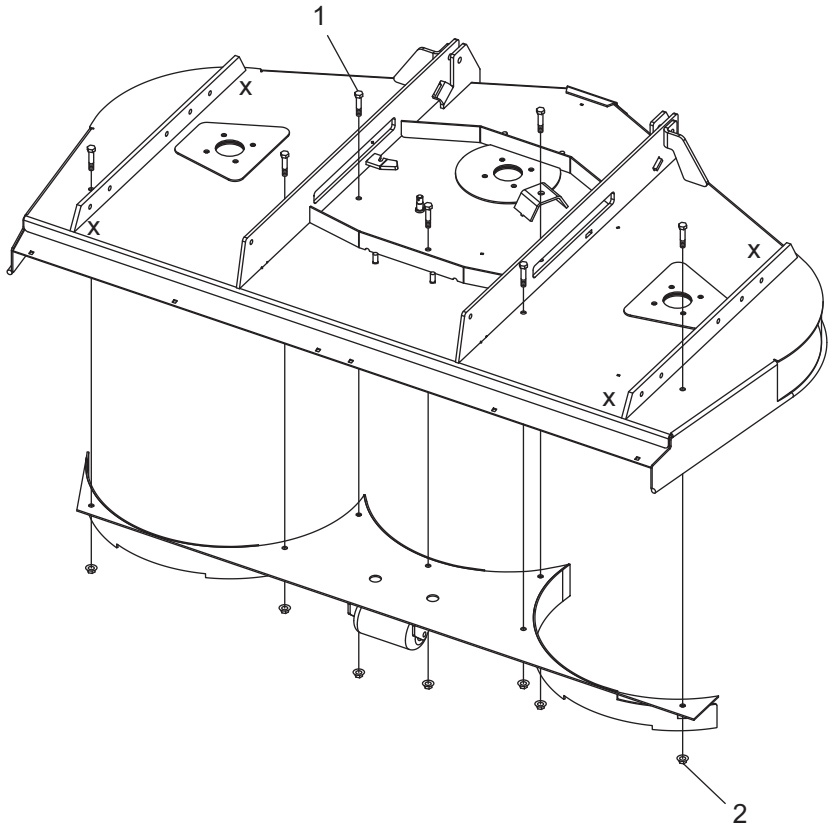


REF	PART	QTY	DESCRIPTION
	1004116		Anti-Streaking kit (TBW)
1	1004117	4	Anti-Streaking bracket
2	14350	*	3/8 NC Flange lock nut
3	839	*	3/8 NC x 1 Hex head cap screws GR5
		*	Standard hardware, obtain locally

INSTALLATION INSTRUCTION

1. Measure from the back edge of the deck as shown.
2. Mark position A and B as shown. Refer to table for deck and hole dimensions.
3. Mark the height dimension (1-1/8) from the top of the skid rod.
4. Drill two 13/32 holes.
5. Install bracket (1) using cap screws (3) and flange lock nuts (2).

TBW180 & TBW204 MULCHING KIT (OPTIONAL)



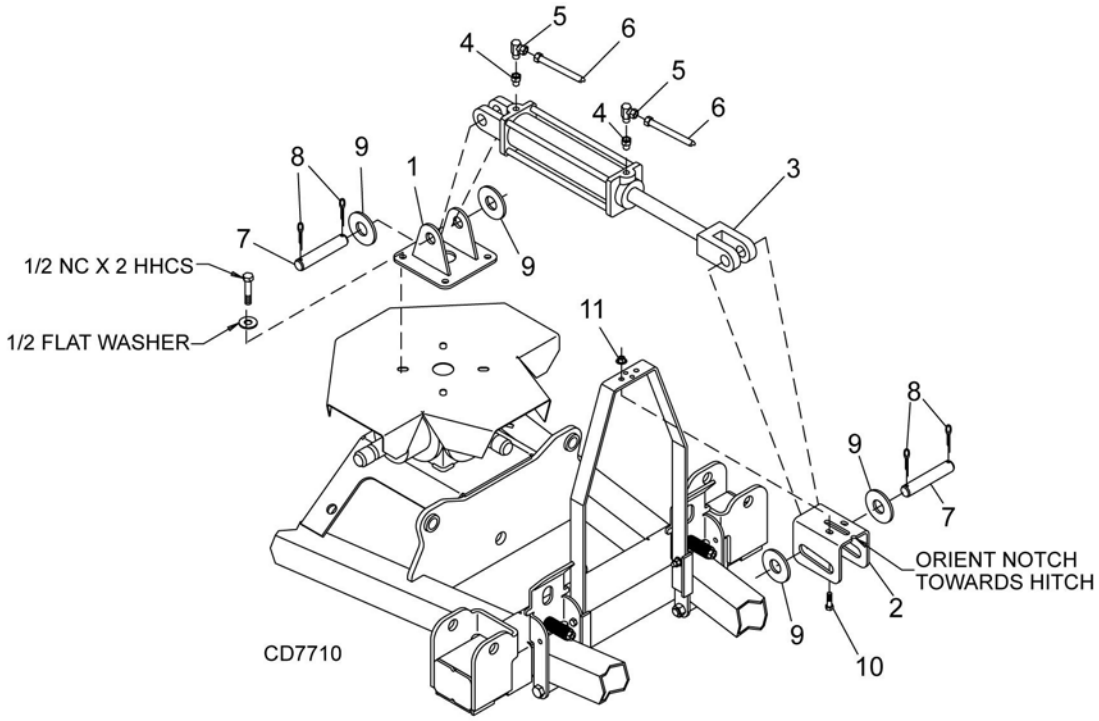
NOTE: Use high lift blades for best performance if tractor does not have enough horsepower for the high lift blades, then use low lift blades.

REF	PART	QTY	DESCRIPTION
A	1019430	1	5' Deck Mulching Kit (TBW180 Wings)
A	1019431	1	6' Deck Mulching Kit (TBW180 Rear, TBW204 All)
1	6100 *	-	1/2 x 1-1/4 Cap screw GR5
2	11900 *	-	1/2 Flanged lock nut
	*		Standard Hardware, Obtain Locally

INSTALLATION INSTRUCTIONS

1. Using the tractor 3-point, or suitable lifting device, carefully lower deck onto 4" - 6" high blocks at each corner.
2. Make sure deck is stable before proceeding.
3. Wear safety glasses or goggles to prevent eye injury while drilling holes.
4. Clamp mulching kit in place. Make sure baffles are completely closed-off by the kit.
5. Inspect fit-up to confirm that there will be no contact between blades and kit at any time. Failure to do so will result in product damage and possible injury.
6. Mark the holes to be drilled.
7. Once marked, remove the kit and carefully drill the holes out using a 9/16" drill bit.
8. After holes are drilled, bolt the kit into place torqueing bolts to 85 lbs-ft.

HYDRAULIC LATCH RELEASE KIT (OPTIONAL)



REF	PART	QTY	DESCRIPTION
	1032454		TBW Hydraulic Latch Release Kit
1	1032479	1	Release Base
2	1032489	1	Slide Channel
3	18725	1	3-1/2 x 8 Hydraulic Cylinder
4	11893	2	Busing, Pipe Reducing 1/2 x 1/74
5	10290	2	Elbow, 90° 3/32 RSTR 1/4 x 1/4
6	17628	2	Hose, HP 1/4 NPT x 108
7	8345	2	Pin, 1 x 4.08 Headless
8	1285	*	Cotter Pin, 1/4 x 1-1/2
9	832	*	1" Standard Flat Washer
10	839	*	3/8 NC x 1 HHCS GR5
11	14350	*	3/8 NC Flange Lock Nut

HHCS Hex Head Cap Screw

* Standard hardware, obtain locally

INSTALLATION INSTRUCTION

1. Remove four 1/3 NC x 2 hex head cap screws and 1/2" flat washers from top of shield on trailer.
2. Attach item 1 on top of shield using hardware previously removed.
3. Attach item 2 to wing release lever using items 10 and 11.
4. Attach base end of cylinder (3) to item 1 using items 7, 8, and 9. Cylinder ports should be pointing upward .
5. Attach rod end of cylinder (3) to item 2 using items 7, 8, and 9.
6. Install reducers (4), elbows (5), and hoses to base of cylinder.

BOLT TORQUE CHART

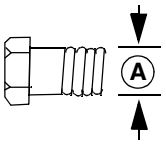
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.



SAE SERIES TORQUE CHART

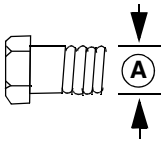
SAE Grade 2 (No Dashes)

SAE Bolt Head Identification

SAE Grade 5 (3 Radial Dashes)

SAE Grade 8 (6 Radial Dashes)

Ⓐ Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART

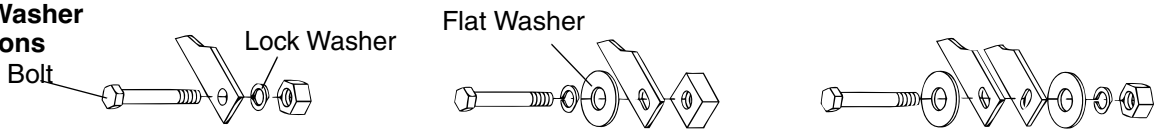
Metric Grade 8.8

Metric Bolt Head Identification

Metric Grade 10.9

Ⓐ Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				Ⓐ Diameter & Thread Pitch (Millimeters)
		MARKING ON HEAD				MARKING ON HEAD				
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9		
		N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0

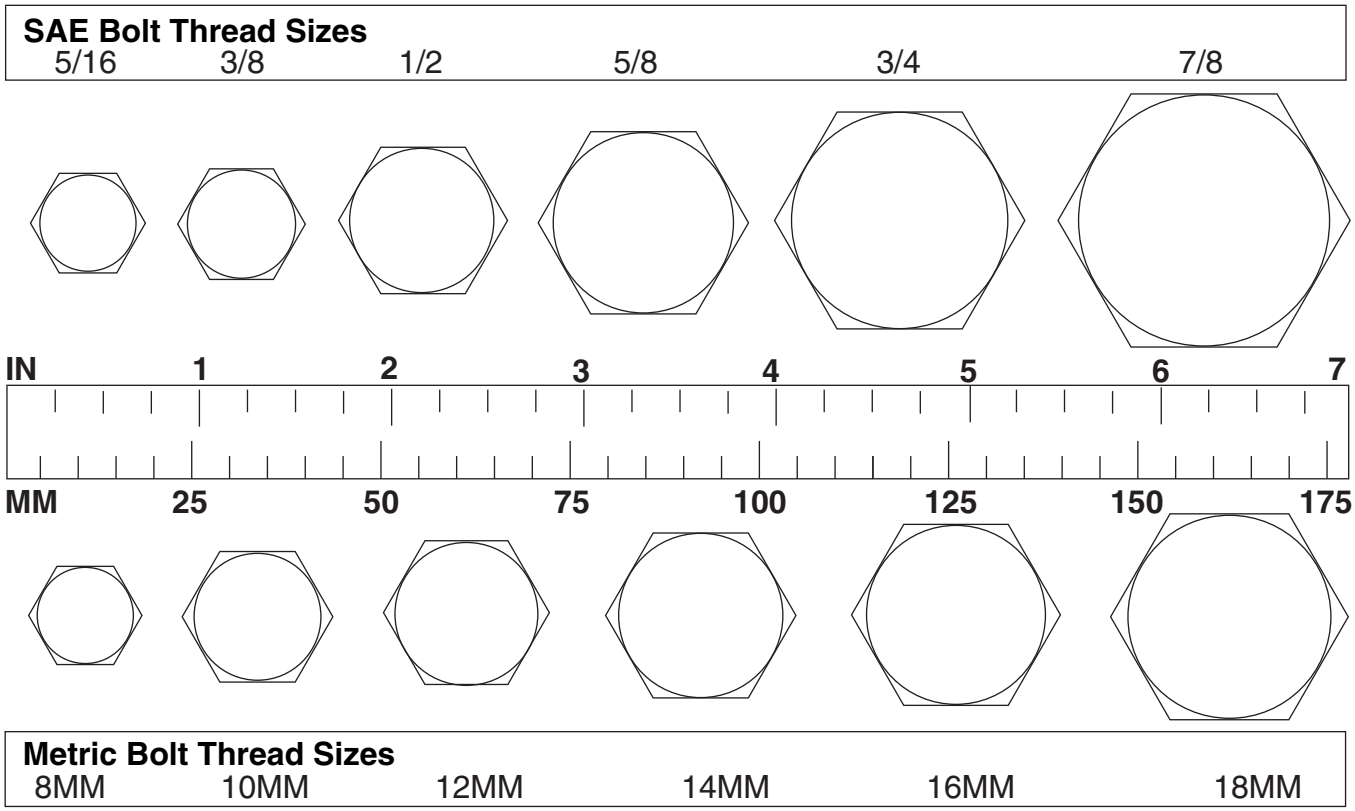
Typical Washer Installations



8/9/00

BOLT SIZE CHART

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.



ABBREVIATIONS

AG ..... Agriculture
ASABE ..... American Society of Agricultural & Biological Engineers (formerly ASAE)
ASAE ..... American Society of Agricultural Engineers
ATF ..... Automatic Transmission Fluid
BSPP ..... British Standard Pipe Parallel
BSPTM ..... British Standard Pipe Tapered Male
CV ..... Constant Velocity
CCW ..... Counter-Clockwise
CW ..... Clockwise
F ..... Female
FT ..... Full Thread
GA ..... Gauge
GR (5, etc.) ..... Grade (5, etc.)
HHCS ..... Hex Head Cap Screw
HT ..... Heat-Treated
JIC ..... Joint Industry Council 37° Degree Flare
LH ..... Left Hand
LT ..... Left
m ..... Meter
mm ..... Millimeter
M ..... Male
MPa ..... Mega Pascal
N ..... Newton
NC ..... National Coarse
NF ..... National Fine
NPSM ..... National Pipe Straight Mechanical
NPT ..... National Pipe Tapered
NPT SWF ..... National Pipe Tapered Swivel Female
ORBM ..... O-Ring Boss - Male
P ..... Pitch
PBY ..... Power-Beyond
psi ..... Pounds per Square Inch
PTO ..... Power Take Off
QD ..... Quick Disconnect
RH ..... Right Hand
ROPS ..... Roll-Over Protective Structure
RPM ..... Revolutions Per Minute
RT ..... Right
SAE ..... Society of Automotive Engineers
UNC ..... Unified Coarse
UNF ..... Unified Fine
UNS ..... Unified Special

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WARRANTY

All Models Except Mow'n Machine™ Zero-Turn Mowers

Please Enter Information Below and Save for Future Reference.

Date Purchased: _____ From (Dealer): _____

Model Number: _____ Serial Number: _____

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship. Except as otherwise set forth below, the duration of this Warranty shall be for TWELVE (12) MONTHS COMMENCING ON THE DATE OF DELIVERY OF THE PRODUCT TO THE ORIGINAL PURCHASER.

All current model loaders and backhoes are warranted for two (2) years from the date of delivery to the original purchaser.

The warranty periods for specific parts or conditions are listed below:

Part or Condition Warranted	Model Number	Duration (from date of delivery to the original purchaser)
	All units invoiced after 4/30/2012	
Gearbox components	BW1260, BW1620, BW1800, BW1260X, BW1800X, BW2400	6 years
	BW240HD, BW180HD, BW180HB, BW126HB, BW126XHD, BW180XHD	
	BB48X, BB60X, BB72X, BB84X, BB600X, BB720X, BB840X, BB6000X, BB7200X, BB8400X, DS1260, DSO1260, DS1440, TS1680, BW126-3, BW180-3, BW240, BW126X, BW180X	
	PHD25, PHD35, PHD65, PHD95, DS96, DS120, RCC42, RD990X, PRD6000, PRD7200, PRD8400, S15CD, S20CD, S22CD, S25CD, S27CD, S30CD BW15LH, TC/R74, TC/R68, TC/R60, TBW144, TBW180, TBW204	
	RDC54, RD60, RD72, TBW150C, TS/R60, TS/R52, TS/R44, HC48, HC54, HC60, HC72	3 years (1 year if used in rental or commercial applications)
Blade spindles	RD990X, PRD6000, PRD7200, PRD8400, TBW144, TBW180, TBW204	3 years
Rust-through	BB600, BB720, BB840, BB6000, BB7200, BB8400, BW126-3, BW126HB, BW180-3, BW180HB, BW180HD, BW1260, BW1800, BW240, BW240HD, DS1260, DSO1260, DS1440, TS1680	10 years

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not apply in the event that the product has been materially modified or repaired by someone other than WOODS, a WOODS authorized dealer or distributor, and/or a WOODS authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. This Warranty also does not cover repairs made with parts other than those obtainable through WOODS.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories not manufactured by WOODS. Warranties for these items, if any, are provided separately by their respective manufacturers.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. WOODS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND WOODS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

WOODS shall not be liable for any incidental or consequential losses, damages or expenses, arising directly or indirectly from the product, whether such claim is based upon breach of contract, breach of warranty, negligence, strict liability in tort or any other legal theory. Without limiting the generality of the foregoing, Woods specifically disclaims any damages relating to (i) lost profits, business, revenues or goodwill; (ii) loss of crops; (iii) loss because of delay in harvesting; (iv) any expense or loss incurred for labor, supplies, substitute machinery or rental; or (v) any other type of damage to property or economic loss.

This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty. Answers to any questions regarding warranty service and locations may be obtained by contacting:

ALITEC™
BMP®
CENTRAL FABRICATORS®
GANNON®
GILL®
WAIN-ROY®
WOODS®

WOODS®

Woods Equipment Company

2606 South Illinois Route 2
Post Office Box 1000
Oregon, Illinois 61061 USA

800-319-6637 tel
800-399-6637 fax
www.WoodsEquipment.com

WARRANTY

(Replacement Parts For All Models Except Mow'n Machine™
Zero-Turn Mowers and Woods Boundary™ Utility Vehicles)

Woods Equipment Company ("WOODS") warrants this product to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the product to the original purchaser with the exception of V-belts, which will be free of defect in material and workmanship for a period of 12 months.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not cover normal wear or tear, or normal maintenance items.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

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This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

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Answers to any questions regarding warranty service and locations may be obtained by contacting:

Woods Equipment Company

2606 South Illinois Route 2
Post Office Box 1000
Oregon IL 61061

800-319-6637 tel
800-399-6637 fax
www.WoodsEquipment.com

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Woods Equipment Company

2606 South Illinois Route 2
Post Office Box 1000
Oregon, Illinois 61061

815-732-2141 tel
815-732-7580 fax
www.WoodsEquipment.com

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